



EPA User's Guide to Federal Accidental Release Databases

Prepared in coordination with the
National Response Team
by the
**Chemical Emergency Preparedness
and Prevention Office**

NRT



USER'S GUIDE TO FEDERAL ACCIDENTAL RELEASE DATABASES

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TABLE OF CONTENTS

	Page
Acronyms	
I. Introduction	1
Background	1
The Database Compatibility Problem	1
A Helpful Step: Today's User's Guide	2
II. Databases Featured and Search Strategies	3
Databases Featured	3
Search Strategies	5
III. Database Profiles	11
Incident Reporting Information System	13
Emergency Response Notification System	17
Accidental Release Information Program	21
Hazardous Materials Incident Reporting System	25
Hazardous Liquid Pipeline Accident Database	29
Integrated Management Information System	33
Hazardous Substances Emergency Events Surveillance	35
Short Descriptions of Additional Federal Release Databases.	37
IV. Quick Cross Reference to Databases	41
Quick Reference on Scope of Databases	42
Comparison of Data Elements in Databases	44
Database Information Contained in Each Data Element	47
Top Five Chemicals or Substances (non-petroleum) in Databases	55
V. Looking to the Future - Linking Databases	57
Value of Linking Database	57
Linking Databases	58
Basis of Linkage - Common Data Elements	59
Efforts to Support Database Linkage	60
Appendix A - Examples of Completed Accident Report Forms for Federal Databases	
Appendix B - Datafield Dictionaries	

ACRONYMS

ARIP	Accidental Release Information Program
ATSDR	Agency for Toxic Substances and Disease Registry
CAA	Clean Air Act
CDC	Center for Disease Control and Prevention
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
CWA	Clean Water Act
DOD	Department of Defense
DOS	Disk Operating System
DOT	Department of Transportation
EHS	Extremely Hazardous Substance
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FHMTL	Federal Hazardous Materials Transportation Law
FNM	Federal Notification Modules
FOIA	Freedom of Information Act
FWPCA	Federal Water Pollution Control Act
HLPAD	Hazardous Liquid Pipeline Accident Database
HMIRS *	Hazardous Materials Incident Reporting System
HMIS	Hazardous Materials Information System
HPSA	Hazardous Pipeline Safety Act
HSEES	Hazardous Substances Emergency Events Surveillance
IMIS	Integrated Management Information System
IRIS	Incident Reporting Information System
ISR	Incident Summary Report
NRC	National Response Center
NRT	National Response Team
NTIS	National Technical Information Service
OPS	Office of Pipeline Safety
OSC	On-Scene Coordinators
OSHA	Occupational Safety and Health Administration
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
RSPA	Research and Special Programs Administration
SARA	Superfund Amendments and Reauthorization Act of 1986
SAS	Statistical Analysis System
SNM	State Notification Modules
TELERNS	DOT Telephonic/EPA National ERNS Database
TSA	Transportation Safety Act
TSCA	Toxic Substances Control Act
USCG	United States Coast Guard

* HMIRS is part of the HMIS (as is HLPAD) and in all cases in this document HMIRS is the correct reference.

I. INTRODUCTION

Background

Although progress continues to be made in preventing accidental releases of hazardous chemicals, these releases remain a recurring problem. A broad range of groups, from industry and trade associations to federal, state, and local government agencies, environmental groups, and other concerned citizens, have a stake in learning more about these accidental releases -- where, when, and how they have occurred -- in order to determine why such releases occur and, consequently, how to prevent them in the future.

To meet this large demand for information about chemical releases, data have been collected by a number of different sources (both public and private) and on multiple levels (facility, parent company, association, local, state, regional, and national). In some cases, this collection of chemical release data has been voluntary; in many cases, however, federal laws (e.g., the Clean Air Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), etc.) require that chemical release information be reported to certain governmental authorities. For example, the federal government currently collects accidental release information based on certain criteria, including characterization of the release (e.g., its size and source), type of chemical released, industry category (e.g., chemical or petroleum manufacturers), and impact of the release (death, injury, and/or evacuation).

In response to laws and federal agency mandates for this type of information, numerous databases that contain accidental release information have appeared over the years. For example, EPA developed the Accidental Release Information Program (ARIP) database to collect information on the ways in which facilities have tried to prevent recurring releases. Another EPA database, known as the Emergency Release Notification System (ERNS) database, was created to help federal on-scene coordinators determine the appropriate federal emergency response to an individual release. None of the federal accidental release databases contain information on long-term economic or environmental impacts.

The Database Compatibility Problem

The existence of many different (and often incompatible) federal databases makes it difficult to develop a national picture of the problem of accidental releases. This conclusion was confirmed by a Report to Congress entitled, A Review of Federal Authorities For Hazardous Materials Accident Safety (EPA 550-R-93-002, December 1993). The report, referred to as the Presidential Review, was prepared by EPA in coordination with the National Response Team (NRT). It catalogues certain deficiencies in data quality, accessibility, and the compatibility of federal accidental release databases.

Some of the report's findings were based on an evaluation of accidental release databases maintained by several federal agencies including Department of Transportation (DOT), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), and the U.S. Coast Guard (USCG). Each regulatory agency charged with controlling hazardous materials has developed at least one accident reporting system or database to accommodate its specific accidental release notification requirements and data needs. Consequently, the databases reflect different statutory definitions and terms (e.g., spill, release, accident, incident), different chemical lists, and different impact concerns (e.g., death). This complicates accidental release reporting. Also, the absence of comparable data sets and lack of database coordination among agencies has inhibited data interpretation, comparative analysis, and cross agency use of accident data. Although this situation has presented a confusing array of databases to industry, environmental groups, and the public, full merger of existing databases has been ruled out as being not realistic, feasible, or preferable. However, the NRT is considering a pilot project for linking the databases; this project is outlined in Chapter V.

A Helpful Step: Today's User's Guide

In follow-up efforts to the Presidential Review, an accident Workgroup, composed of members of the NRT, decided that developing a user's guide to federal accidental release databases might make these databases more usable, available, and comparable. Potential users for this guide include staff from federal government (both for agencies that maintain the data and for other agencies), state and local governments, industry and business, environmental groups, and the public. Users may come to this guide with different questions or hypotheses regarding accidental releases. By consulting this guide, users should be able to obtain a range of information, from data about specific releases to data about national release trends. As always, the information varies in quality, and is only useful if the user understands the limitations of the data and interprets the data appropriately. The guide is organized with these assumptions in mind.

Chapter II of the guide provides a list of the databases featured in this document, and outlines some general search strategies to assist the user in formulating a search and choosing the appropriate databases. Chapter III includes brief, descriptive profiles of seven federal accidental release databases maintained by the National Response Center (NRC), EPA, DOT, OSHA, and the Agency for Toxic Substances and Disease Registry (ATSDR). Each profile is two to four pages in length and briefly describes the database for those unfamiliar with the specific characteristics of the database. Additional databases not featured in these profiles are described at the end of Chapter III. Chapter IV provides a quick cross reference to the databases and to information of interest (e.g., chemicals covered, number of records). By reviewing Chapter IV's comparison of different databases, users of this guidance document may be better equipped to choose the database that best meets their information needs. Chapter V discusses the value of and possible pilot project for linking the databases to enable comparative analysis.

This guide is designed to be both accessible to the lay person and sufficiently detailed to assist the policy analyst or computer-oriented person. For instance, users who are unfamiliar with database search strategies and the specific databases described in this document should read Chapter II carefully and consult the cross reference exhibits in Chapter IV. Other users who are already somewhat familiar with these federal accidental release databases and who want more detailed information about a specific database should read Chapter III. Each agency has reviewed relevant sections of this guide for content and accuracy. As changes in regulations or agency needs occur, some information in this user's guide may become outdated.

II. DATABASES FEATURED AND SEARCH STRATEGIES

Databases Featured

Because of the large and potentially confusing number of accidental release databases in existence, the focus of this user's guide was limited to seven, federally maintained databases. The seven databases were selected because they: (1) contain information on accidental releases of hazardous chemicals; (2) are important data sources that support federal agency goals; and (3) are on-going collection efforts. The following table lists the selected databases profiled in this user's guide.

Acronym	Database	Lead Agency
IRIS	Incident Reporting Information System	NRC
ERNS	Emergency Response Notification System	EPA
ARIP	Accidental Release Information Program	EPA
HMIRS	Hazardous Materials Incident Reporting System	DOT
HLPAD	Hazardous Liquid Pipeline Accident Database	DOT
IMIS	Integrated Management Information System	OSHA
HSEES	Hazardous Substances Emergency Events Surveillance	ATSDR

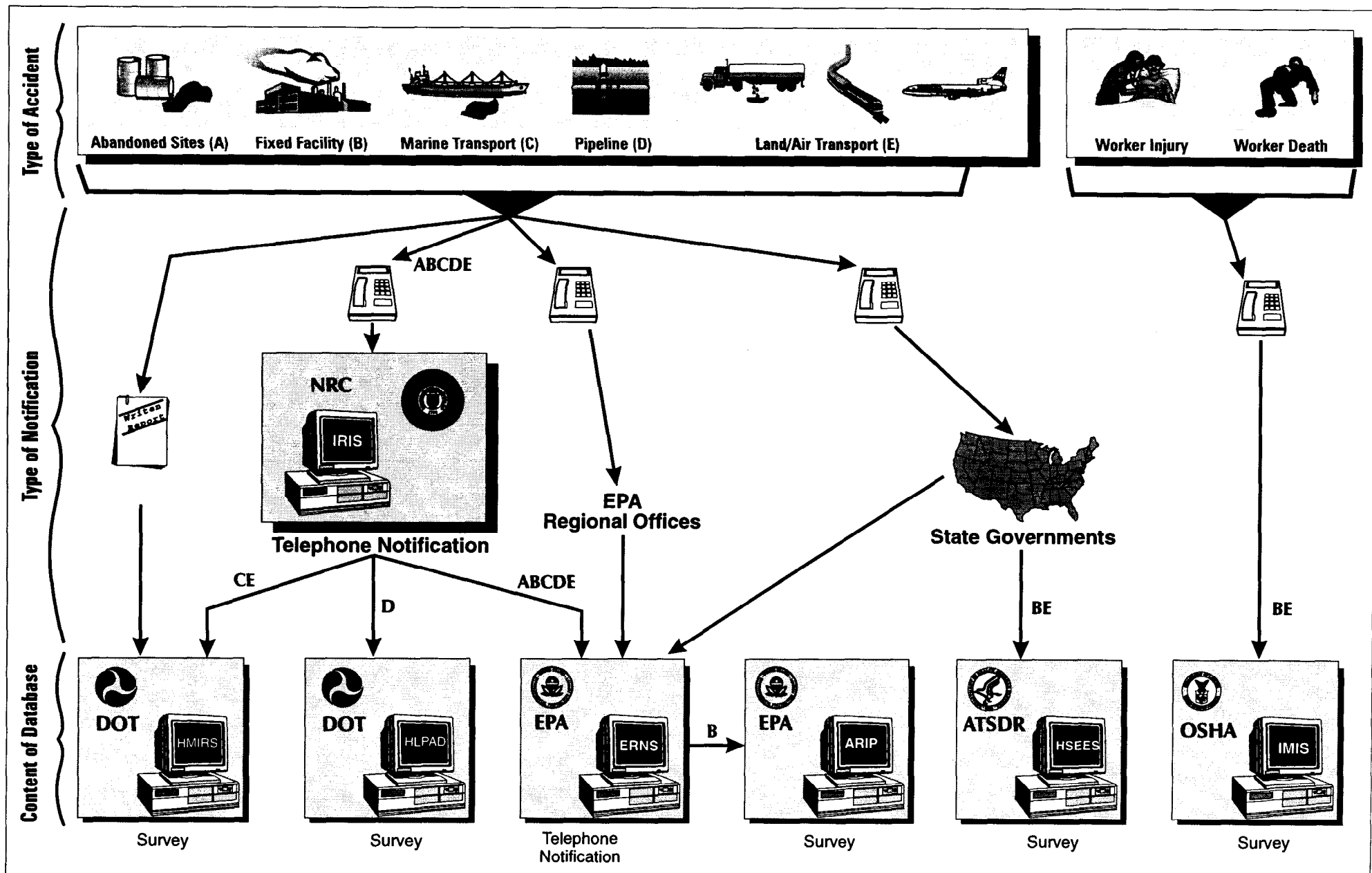
Most of these featured federal accidental release databases are currently not directly accessible to the public. Although this lack of accessibility is changing, the user generally will need to contact the federal agency directly to obtain desired information. Generally, different federal agencies have different procedures for requesting information. Under the Freedom of Information Act (FOIA), the user can request information by following the agency procedures in the Code of Federal Regulations (CFR): National Response Center/United States Coast Guard, 33 CFR 1; Environmental Protection Agency, 40 CFR 1; Department of Transportation, 49 CFR 7; Occupational Safety and Health Administration, 29 CFR 1912; and Agency for Toxic Substances and Disease Registry, 48 CFR 324. However, the user should first consult individual database profiles in Chapter III to learn more detailed information about the featured databases and to identify alternative ways to access them.

Many of these databases are related to one another in that they are built on the same basic information. The "parent" database is the National Response Center's IRIS database, which is the depository of almost all release notifications reported to the federal government. NRC's IRIS database supports many federal government agencies that have responsibilities for emergency response, emergency planning, and release prevention. These agencies include the U.S. Coast Guard, Environmental Protection Agency (EPA), Department of Transportation (DOT), Federal Emergency Management Agency, Department of Energy, and the Department of Defense.

Exhibit 1 presents the general relationship among the seven federal accidental release databases featured in this user's guide. NRC's IRIS forms the core for a family of other federal databases that collect more detailed or follow-up information to support release prevention, enforcement, and policy decisions. Other databases combine IRIS information with other release notification information. For example, EPA's ERNS database combines release notifications contained in IRIS with the notifications

Exhibit 1

General Relationship Among Accidental Release/Notification Databases



reported to the EPA regions. In turn, a subset of the ERNS database is used to form EPA's ARIP database, which focuses on collecting specific follow-up information about the prevention of more severe releases.

Two databases featured in this guide are not outgrowths of NRC's IRIS database, but may contain information about similar releases (Exhibit 1). Inclusion of information in OSHA's IMIS database is triggered by a fatality or at least three worker injuries, and may not necessarily involve the release of a hazardous substance. Similarly, the source for release and consequence information for ATSDR's HSEES database is not the IRIS database, but data collected primarily from state health departments.

The user should also recognize that the number of release records in the seven featured databases varies greatly (Exhibit 2). IRIS, ERNS, and HMIRS contain the largest volume of release notification records. These three databases may provide information about a larger number of releases, but they may not be the most accurate or complete. In addition, the type of releases covered in the seven featured databases also vary greatly (Exhibit 3). The different types of releases include releases from fixed facilities, from transport sources (e.g., ship, truck, rail, pipelines, aircraft), and from abandoned dumps or waste sites.

Search Strategies

To help guide the user in conducting a database search, this section provides users with some general database search strategies and suggestions for analyses. Using this guidance, users can formulate a search, and then select the most appropriate database or databases with which to work. Examples are included that demonstrate how the databases can be examined. An applied approach is provided to address some of the same issues of database compatibility and utility mentioned in the Presidential Review. Chapter V of this document advances this discussion of search strategies by describing the value and possibility of using information from several different databases to get more complete information about releases.

STEP 1 - Formulate objectives and scope

An important and critical step in obtaining the desired information is to first define the objective or goal of a search. One objective could be to test a hypothesis, such as: releases of toxic gases have greater consequences for the public than liquid spills even though gas releases are significantly smaller than liquid spills. Another objective could be to obtain background information (e.g., number of spills per year) or to supplement existing information about a specific incident. Formulating the objective helps to determine the scope of the analysis. Even a comprehensive analysis should be sufficiently detailed so that the scope of the data search is narrow enough to make the data meaningful. The search can be appropriately narrowed by focusing on releases of certain chemicals, releases in certain geographic areas, releases of certain sizes, and releases in certain years. For example, a sufficiently defined search might examine the number of chlorine releases at water treatment facilities. In addition, a narrow scope can reveal findings that might otherwise be diluted in searches of larger data sets and/or large databases like IMIS, ERNS, and HMIRS.

STEP 2 - Determine the types of information needed

After a goal or objective has been defined, the user should identify all of the types of information or data elements that might be applicable to his or her objective, such as quantity released, chemical released, and injuries. The data element or kind of information contained in a database should match the user's desired information before choosing an appropriate database. For example, for a data element on injuries, the user should ask what level of detail about the injury is needed (i.e., is it sufficient for a

Exhibit 2

Incidents Involving Accidental Chemical or Petroleum Releases/Notifications

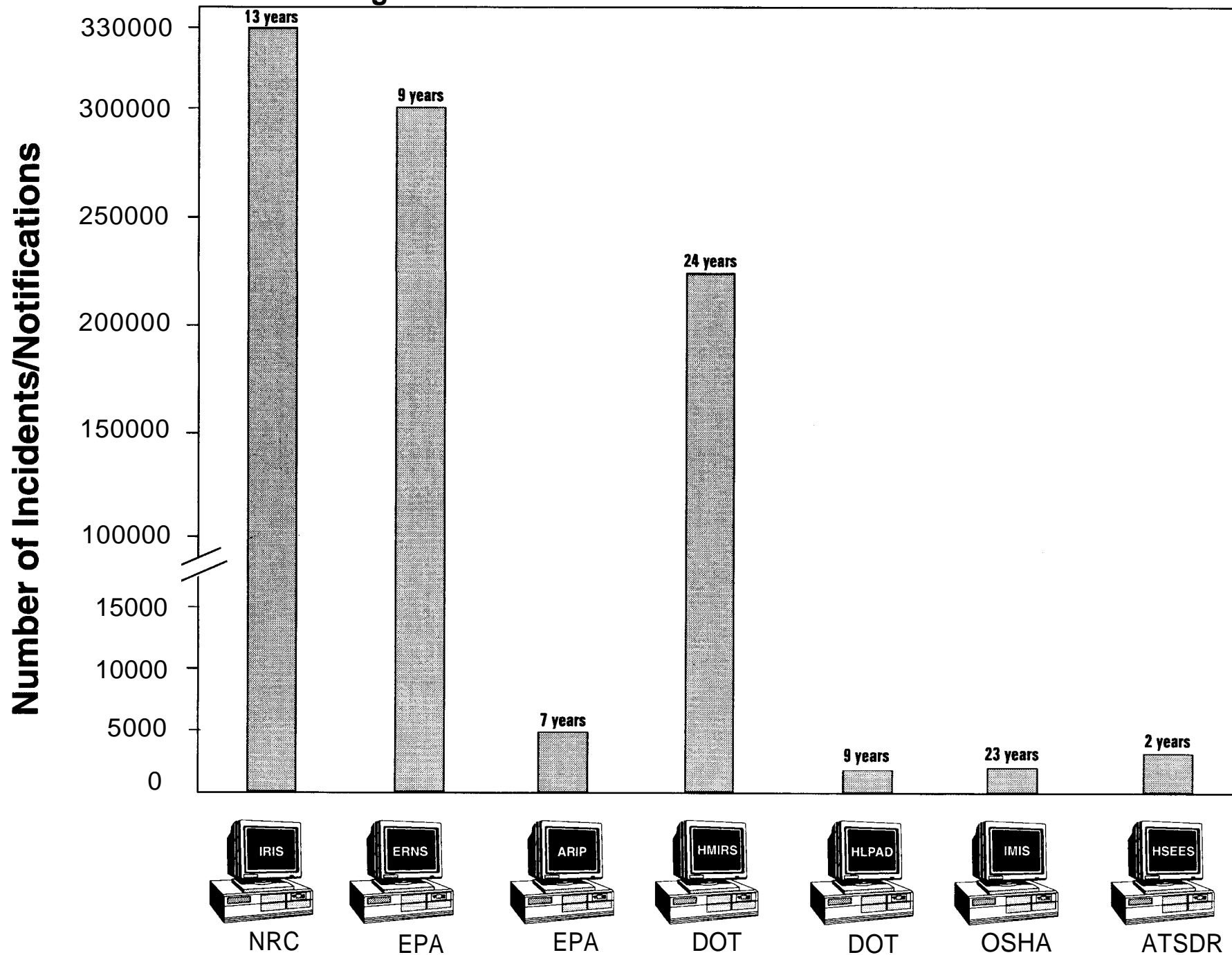



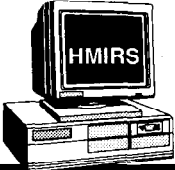





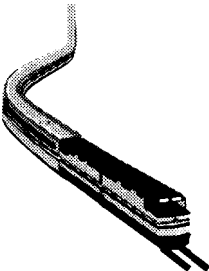


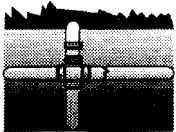



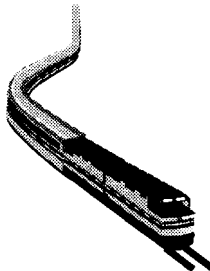



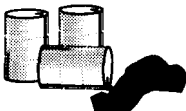


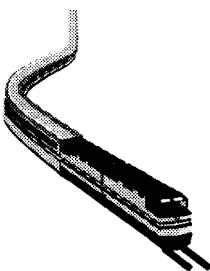





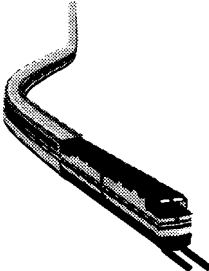



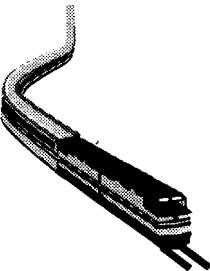



Exhibit 3 Types of Releases Covered

NRC 	EPA 	EPA 	DOT 	DOT 	OSHA 	ATSDR 
      	      		   		   	   

yes/no response that the injury occurred, or is it necessary to have the number of injuries or, even further, is it necessary to have information about who was injured (e.g., facility employee, public, contractor, responder?)). Also, if regulatory issues are being explored, it is important to outline the regulatory definitions needed in the data elements. For example, a database search on releases of interest to the Coast Guard should focus on a data element that covers releases to navigable waterways rather than just releases to water.

STEP 3 - Examine level of accuracy required for analysis

To consider this issue, the user may need to ask if the results have to reflect national trends. Is it more important to have verified information in a relatively small data set (e.g., ARIP) or to have a larger database of initial release notification information (e.g., ERNS)? More records do not necessarily increase the accuracy of the data findings, especially if the information is unverified or particularly subject to uncertainty. For example, an analysis of release quantity in ERNS is probably subject to significant error because the information is reported soon after or during a release when the release quantity may not be known accurately. ARIP can provide better release quantity information because the information is provided several months after the release. However, the ARIP database focuses on only the more serious releases and therefore, the quantity information cannot be extrapolated to national trends.

STEP 4 - Know your desired output

Is a printout of a single release record desired? For comprehensive aggregate analyses, are simple frequency distributions required or are more sophisticated correlations or statistical analysis required? By asking these questions in advance to define the search, the user will allow the agency contact to better respond to the user's database needs. Of course, the user can work along with the database contacts to prepare the information request further.

STEP 5 - Use Steps 1-4 as the basis to select the most appropriate database

The most common database searches involve identifying a single release, requesting information on all releases from a specific company or facility, or performing an aggregate analysis. If the user is unsure which database will meet his or her needs, the user should first consult the Chapter IV exhibits, keeping in mind the kind of search that is desired. Cross-comparison of databases presented in these exhibits can help determine which databases can meet the objectives of the search. Then, the user should review the more detailed database profiles in Chapter III to confirm his or her choice and to learn how to request the search or to gain access to the data.

If the search focuses on a single release, the user may have to determine if this kind of release (e.g., transportation) is likely to be reported in a given database, considering the characteristics and scope of the database. Exhibit 4 in Chapter IV provides information about the chemicals and industries covered and the criteria for including the release in the database. The user may also ask what critical information (e.g., release date, company name, and chemical released) he or she must have for identifying the release. If the search asks for all releases or notifications related to a specific company for a particular material, the user should also include in the search a listing of the company name, including subsidiaries and common misspellings. In both kinds of searches, the user should request the kind of information about the release that is important to him or her (e.g., damage, cause) and that is collected in the database. Sometimes, federal agencies provide a standard set of information about the release. Exhibit 5 in Chapter IV will assist the user in identifying the data elements needed. Exhibit 6 can provide specific details on whether a specialized piece of information, such as Dunn and Bradstreet number, can be used to further identify the release or facility.

For aggregate searches, the user should carefully choose the database that provides the information to satisfy the objective of the analysis. The user should use the database profiles in Chapter III and the exhibits in Chapter IV to become familiar with the precise definition of the data elements in order to prevent misinterpretation of the data. For example, an analysis of deaths that involve releases of hazardous substances may be misleading if OSHA's IMIS database is selected. The death information in IMIS does not differentiate between a death due to release exposure or to mechanical exposure (e.g., crushed by an overturned forklift that happened to spill a pallet of hydrochloric acid). Along with an understanding of the definition of the data elements, the user must determine if the types of information needed are found in the database. For example, the number of chlorine releases at pulp/paper mills can be effectively searched in ARIP, because ARIP contains information on the chemical or CAS number and on the SIC code, which can identify pulp/paper mills. For overall trend analysis (e.g., frequency distributions on the number of releases or chemicals released), the larger national databases such as ERNS, HMIRS, and IRIS are most useful.

Some users have conducted risk analyses with the release data. For overall risk analyses on transportation releases, the user could use HMIRS to determine the number of transportation releases and use another information source to determine the number of chemical shipments. The larger databases are also valuable if the user wants to identify the number of releases/notifications and associated release information related to a company for a particular material over a certain period of time. Databases that have detailed, verified information such as ARIP, HMIRS, and HSEES are suited to the testing of specific hypotheses (e.g., chlorine releases disproportionately cause consequences) and to analyses on different subsets of data (e.g., data on releases during operations versus releases during maintenance activities). The user should be cautioned about comparing the results of an analysis conducted on one database with the results from another database. Broad statistical analysis is not comparable across database due to differing scopes of the databases (e.g., criteria for reporting, industries covered).

As noted above, Chapter V of this document takes this discussion of search strategies a step further, by describing possible ways to use information from linked databases to get more complete information about releases.

III. DATABASE PROFILES

In this chapter, a profile format is used to describe each of the seven federal accidental release databases. Using the information provided in each profile, the user can request or access desired data and can analyze the data appropriately. The profile outlines a **general description** of the database including its history, purpose of collection, typical users, database size, and a list of potential contacts. Along with general information, the user is provided with information on the **characteristics of the data** that include data sources, data scope (e.g., types of chemical reported, industries reported, criteria for reporting), and data limitations and quality (e.g., missing data, data accuracy, data verification). In addition, the user is supplied with a listing of key **data elements** contained in the database. Another section of the profile covers **ways and costs to access the data** and a final section provides **helpful hints** in searching for data, given the idiosyncracies of each database. The user can also refer to two appendices: one that presents examples of completed accident report forms for the databases (Appendix A) and another that includes datafield dictionaries listing the computer format and data elements in each database (Appendix B).

The database profiles are valuable for users who:

- ▶ Want to introduce and familiarize themselves with details of several federal accident release databases;
- ▶ Have heard of a federal database and are not sure if it is the right one for their needs;
- ▶ Are interested in linking or using several databases to perform an analysis;
- ▶ Know which database has the desired information, but do not know how to access it; or
- ▶ Have used one of the databases before, but may seek ways to make their information search more efficient or effective.

Following the profile section, short descriptions of several other federal release or reporting databases are provided.

Profile

Acronym:	IRIS
Database Name:	Incident Reporting Information System
Agency Office:	U.S. Coast Guard, National Response Center
Primary Contact:	Logistics Support Officer, National, Response Center
Contact Address:	Chief, NRC
	U.S. Coast Guard, National Response Center
	Room 2611, G-TGC-2
	2100 2nd Street, SW
	Washington, DC 20593
Contact Phone:	(202) 267-2185

GENERAL DESCRIPTION

The Incident Reporting Information System (IRIS) is a relational database operated by the National Response Center (NRC) at the U.S. Coast Guard Headquarters. This database system should not be confused with another EPA system with the same acronym - Integrated Risk Information System (also known as IRIS). IRIS contains data on oil, chemical, biological, and etiological discharges into the environment anywhere in the U.S. or its territories. There are many federal statutes that require reporting of such releases:

- Oil spills are reported under Section 311(b) of the Federal Water Pollution Control Act (FWPCA) of 1973, Section 306(a) of the Outer Shelf Lands Act Amendments of 1978, and Section 18(b) of the Deepwater Ports Act of 1974.
- Chemical spills are reported under Section 302 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, and Federal Hazardous Materials Transportation Laws.
- Pipeline spills are reported under the Hazardous Liquid Pipeline Safety Act.
- Air releases are reported under the Clean Air Act (CAA), the Toxic Substances Control Act (TSCA), Federal Hazardous Materials Transportation Laws, and the Resource Conservation and Recovery Act (RCRA).

IRIS supports the informational needs of various organizations within the National Response Team (NRT), though it is used primarily for emergency response notification. Staffed by the U.S. Coast Guard, the NRC collects information nationally on reports of hazardous material releases as well as releases of hazardous substances and oil from fixed facility and transportation incidents. These reports are transmitted daily to Volpe National Transportation Systems Center in Cambridge, MA, and compiled in a separate database. This database is reviewed to eliminate duplicates and merged with DOT-EPA's jointly-managed TELERNS database. The NRC's primary role is to relay incident information immediately to the Federal On-Scene Coordinator (Coast Guard or Environmental Protection Agency official) who coordinates any potential federal response to the incident.

IRIS (Continued)

Data from IRIS reports are also disseminated to other response agencies, including USCG, EPA, Department of Transportation, Federal Emergency Management Agency, and the Department of Defense. Data are also passed to several states via a system called STATE*FAX. The NRC is encouraging more states to link up with the NRC notification process and incident database. IRIS data can be provided to other agencies for guidance and regulatory development, compliance and enforcement support, statistical and trend analysis, academic research, or property transfer/site audits. The NRC handles approximately 300,000 telephone calls per year, and most are recorded. Not all of the telephone calls relate to unique incidents. For example, of the 300,000 calls received in 1990, only 25,200 unique incident reports were recorded. The NRC estimates the annual growth rate of incident reports to be approximately ten percent. As of September 30, 1994 there were 247,276 incidents in the IRIS database. This represents all notifications made to the NRC since 1982. For CY 1994, NRC expects over 33,000 incidents to be reported. Notification reports received by the NRC from 1974 to 1982 are archived. The relational database maintained by the U.S. Coast Guard was initiated in 1982 and reorganized in 1988 to become the IRIS system that is in existence today. The data collected have remained unaltered; specific packaging "features" have been recently added. In cases where new information on previous notifications becomes available, the new data are entered as a new record while the old information remains unchanged. Periodic data reviews occur to ensure that data in the IRIS database are accurate (e.g., spelling and geographical location).

CHARACTERISTICS OF DATA

Source IRIS data are entered directly into a database when a release is reported to the NRC. Such information is usually provided by telephone reports from persons associated with the facility or transportation vehicle that had the release, or from government officials or private citizens who observed the release.

Scope IRIS contains three categories of release reports: hazardous substances as designated by CERCLA; oil and petroleum products defined by the Clean Water Act; and materials that are not CERCLA- or CWA-defined substances.

The number and types of chemical releases that are reported to IRIS have changed over the years because of regulatory changes, changes in the chemical industry (packaging and increased productivity), changes to lists of chemicals in the regulations, and surges in reporting from a specific industry. **Information about specific changes in the IRIS database over time can be obtained from the NRC's Logistics Support Officer at (202) 267-2185.**

IRIS contains data on reported releases from fixed facilities, marine/offshore facilities, pipelines, and transportation vehicles. Both actual and potential releases may be reported to IRIS. Practice drills for emergency releases are also captured in the database. IRIS notification reports are comprised of primarily short answer questions.

Data Limitations Because IRIS is a database of initial notifications made during or immediately after a release occurs, exact details of the release are often unknown. Consequently, the information provided to the NRC may be incomplete, preliminary, or inaccurate. For example, release quantity information is often not reported accurately at the time of NRC notification. If the notifying party is representing the responsible party, the information in the database is usually more complete than if reported by a citizen or observer.

Duplicate reports may appear when a caller makes a second report to update original data, or a release is observed and reported by more than one person. Less than 20

percent of IRIS records are estimated to be duplicates. Notifications are never removed from the database. Updates are occasionally provided by the responsible party or the OSC. Reports are taken over the telephone; for this reason, errors in transcription (e.g., misspellings) may limit the quality of some data. A Duty Officer reviews each report in an effort to eliminate these errors.

IRIS is not an incident-specific database because it contains notification information on both actual, misreported, and potential releases. Therefore, conclusions about release distributions or correlations based on IRIS information may be deceptive because the data analysis may include information on potential or misreported releases. Methods or resources to help overcome or adapt to these data limitations are described in the helpful hints section.

IRIS does not distinguish whether deaths and/or injuries resulted from the release of the chemical or from the incident that caused the chemical release.

DATA ELEMENTS

There are approximately 140 datafields in IRIS. The following key categories are included in IRIS:

- | | | |
|-------------------------|---------------------------|-------------------------------------|
| • date/time of incident | • evaluation of response | • responsible company/discharger |
| • incident location | • material released | • persons/agencies notified |
| • medium affected | • cause | • damage (deaths, property) |
| • response actions | • source | • personnel/agencies to be notified |
| • quantity spilled | • reporting source/person | |

Refer to the Datafield Dictionary (Appendix B), for a complete list of IRIS data elements.

A C C E S S

Availability **FOIA Requests** Currently, for personnel from state and local government, industry, and the general public, a written FOIA request to the FOIA Officer is the preferred manner to request specific data or obtain more information about IRIS. Federal government personnel do not need to make a data request under FOIA, however, written data queries should still be directed to the FOIA Officer. **All requests should be addressed to: FOIA Officer, Commandant USCG, Room 2611, 2100 2nd Street SW, Washington D.C., 20593.** The Logistics Support section of the National Response Center oversees the database. The Logistics Support section may be contacted at (202) 267-2185 to assist in focusing requests, and answering questions about performing searches in IRIS. Requests for IRIS information are also available through e-mail using the Internet at **foia.msg/g-tl7@cgsmtt.comdt.uscg.Mil**. The cost for an IRIS search depends on the data medium requested (e.g., hard copy, floppy disk) and the time and effort expended to fill the request. Costs are usually minimal and are based on the fee schedule for Freedom of Information Act (FOIA) requests outlined in 40 CFR 2.120. There is no fee for data query requests made by the federal government.

Subscription for Information Government agencies can set up a query account to receive notification of major, potential major, and medium-size incidents within a specific region or type. This information is released weekly, sometimes daily, depending on the number of reports. These reports are called Incident Summary Reports (ISRs). To receive a subscription to these data, a written request is required, as is a commitment not to release

certain information contained in the reports. If the agency is responsible or obligated to publish all of the information, including information protected by the Privacy Act, the NRC can provide abbreviated reports excluding the sensitive information. Currently, over 250 individuals from various federal agencies subscribe to the ISRs.

Another service recently offered through the IRIS system is the Federal and State Notification Modules referred to as FNM and SNM. These modules immediately notify certain persons or groups in federal and state agencies of releases if the person has expressed interest in being notified in a timely manner. The program was initiated to notify governors of releases within their state. There are currently over a dozen different federal offices and 27 states enrolled in this new program. The agencies, such as the Fish & Wildlife Service, and states may use FNM and SNM information to notify sensitive populations of releases (e.g., zoos, and water treatment plants). These parties have an interest in responding quickly to releases to reduce the impact. To receive a subscription to these data, a written request is required, as is a commitment not to release certain information contained in the reports. If the federal or state agency receiving the notification is responsible or obligated to publish all of the information, including information protected by the Privacy Act, the NRC can provide abbreviated reports excluding the sensitive information.

Conditions of Use	IRIS data have various conditions that limit the use or disbursement of these data. For example, proprietary or trade secret information may not be released. "Sensitive" reports are available to tailor the formatted information to best meet the user's needs. Call the NRC for specific requests.
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Data Outputs, Hardware, and Software Requirements	The Logistics Support section performs queries for information and manages the IRIS database. IRIS data and analyses can be presented in various formats and are available in hard copy or on floppy diskettes.
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IRIS can provide information in DOS or UNIX, DYNIX-PTX compatible files.

Training/ support	The Logistics Support section provides support for IRIS-related requests and questions. The support group is available to assist in interpreting data and focusing FOIA requests.
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HELPFUL HINTS

- ▶ Keep in mind that most IRIS data are based on initial notification, and may not have been verified. Therefore, historical IRIS data on a specific incident may be inconsistent with data from other sources.
- ▶ There is a flag in the database that identifies duplicates or updates reported to the NRC.
- ▶ Release information on specific chemicals can be searched by chemical name or CAS number.
- ▶ Users undertaking statistical analysis should avoid small data sets because of the inaccuracy and incompleteness of the notification records.
- ▶ Users undertaking statistical analysis should be careful to consider and address multiple notifications for a single release.
- ▶ Any analysis should be sufficiently broad to minimize the influence of data spikes and regulatory changes.
- ▶ Consult with the Logistics Support section to help focus the analysis.

P r o f i l e

Acronym:	ERNS
Database Name:	Emergency Response Notification System
Agency Office:	U.S. EPA Office of Emergency and Remedial Response
Primary Contact:	ERNS Information Line
Contact Address:	ERNS Manager
	U.S. Environmental Protection Agency
	Mail Code 5202G
	401 M Street, SW
	Washington, DC 20460
Contact Phone:	(202) 260-2342 or (703) 603-8960

GENERAL DESCRIPTION

The Emergency Response Notification System (ERNS) is an EPA database that contains data on release notifications of oil and hazardous substances reported to the National Response Center or the ten EPA regional offices. There are four primary federal statutes that require release reporting:

- Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980;
- Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986;
- Section 1808(b) of the Hazardous Materials Transportation Act (HMTA) of 1974; and
- Section 311 of the Clean Water Act (CWA).

Part or all of the information included in reports to the NRC may be collected in ERNS. ERNS notifications are used by On-Scene Coordinators (OSCS) to determine an appropriate federal response action. Data in ERNS reports may also be given to other response agencies including the state emergency response commission, local emergency planning committee, U.S. Coast Guard (USGC), Department of Transportation (DOE), Federal Emergency Management Agency-Office of Hazardous Materials (FEMA-OHM), and the Department of Defense (DOD). Other data applications include guidance and regulatory development, compliance and enforcement support, statistical and trend analysis, academic research, and property transfer/site audits. ERNS has received approximately 300,000 release notifications since its inception in 1986. All notifications reported to the NRC and EPA regional offices become part of the national ERNS database managed jointly by EPA and DOT as the TELERNS database. In cases where new information on previous notifications becomes available, EPA regional offices can provide periodic updates to the ERNS database at EPA Headquarters. Each EPA region also maintains its own region-specific database, which is a subset of the national database. New notifications are input daily.

CHARACTERISTICS OF DATA

- Source** ERNS data are captured electronically when a release is reported to the NRC or EPA regional offices. Such information is usually provided by a person associated with the facility or transportation vehicle that had the release, though other observers of the release may also report it.
- Scope** ERNS contains three categories of release reports: hazardous substances as designated by CERCLA, oil and petroleum products defined by the Clean Water Act; and materials that are not CERCLA- or CWA-defined substances. CERCLA substances account for, on average, 19 percent of all notifications in ERNS. Oil notifications (as required by the CWA) account for 57 percent, and notifications of other chemicals comprise 24 percent. CERCLA releases that meet or exceed the reportable quantity (RQ) set forth in 40 CFR 302.4 must be reported. Oil releases that violate applicable water quality standards, cause a film, or cause a sludge/emulsion beneath the surface of water must be reported. Some of the release notifications of other chemicals (non-CERCLA and non oil chemicals) are generated by criteria established for reporting of transportation releases under HMTA or pipeline safety regulations.

The number and types of chemical releases that are reported to ERNS have changed over the years because of regulatory changes, listing/delisting chemicals in the regulations, and surges in reporting from a specific industry. Information about specific changes in the ERNS database over time can be obtained from the ERNS Information Line.

ERNS contains data on reported releases from fixed facilities, marine/offshore facilities, pipelines, and transportation vehicles. Both actual and potential releases may be reported to ERNS. ERNS notification reports are comprised of both short answers and long comments.

- Data Limitations** Because ERNS is a database of initial notifications made during or immediately after a release occurs, exact details of the release are often unknown. Consequently, the information provided to the NRC or EPA may be incomplete, preliminary, or inaccurate. Only about a third of the 193 information datafields are completed for most of the release notifications.

The majority of ERNS information is not verified or validated. The data are usually not updated with more current information unless an EPA region is involved in the response action. Data quality varies from one region to another.

Approximately five percent of ERNS records are estimated to be duplicates. Duplicate reports may appear when a caller makes a second report to update original data or a release is observed and reported by more than one person. Reports are taken over the telephone, therefore, errors in transcription (e.g., misspellings) may limit the quality of some data.

DATA ELEMENTS

The following key categories are included in ERNS:

- date/time of incident
- incident location
- medium affected
- response actions
- region information
- evaluation of response
- material released
- cause
- persons/agencies notified
- follow-up actions
- responsible company/discharger
- source
- damage (deaths, property)

Refer to the Datafield Dictionary (Appendix B), for a complete list of ERNS data elements.

ACCESS

Availability

ERNS Information Line Currently, for industry, regulatory and enforcement support, **and** general public requests, the ERNS Information Line is the preferred way to request specific data or obtain more information about ERNS. Operated by EPA Headquarters, the **ERNS Information Line** at (202) 260-2342 can be used to address questions about ERNS and to perform reasonable data searches. The line accepts recorded messages from callers, and requests will be followed-up by a telephone call or letter from EPA or an EPA contractor, as appropriate. Requests for ERNS information may be made through e-mail using the Internet at **erns.info@epamail.epa.gov**. The cost for an ERNS search depends on the data medium requested (e.g., hard copy, floppy disk) and the time and effort expended to fill the request. Costs are based on the fee schedule for Freedom of Information Act (FOIA) requests outlined in 40 CFR 2.120. Data can be delivered via First Class Mail.

Bulletin Board In FY 1995, a bulletin board is expected to enable downloading of ERNS information. The bulletin board will have several advantages over the ERNS Information Line including more quick and easy access and no cost for the data.

Channels for EPA Personnel EPA Headquarters and regional personnel may access ERNS through the EPA local area network or by contacting the ERNS Manager at (703) 603-8735 or a regional ERNS Coordinator. Also, EPA and other government groups can set up a query account system with the Emergency Response Division to maintain easy access to the ERNS information.

FOIA Requests Both EPA Headquarters and regional offices can address ERNS information requests through Freedom of Information Act (FOIA) requests. A listing of regional FOIA offices is listed in the fact sheets on ERNS (see below). The fee schedule for FOIA requests is outlined in 40 CFR 2.120.

Published Information General ERNS information and data analysis is available in the following fact sheets from the ERNS Information Line at (202) 260-2342:

An Overview of ERNS, March 1995, Publication 9360.0-29FSA
ERNS and Site Searches, March 1995, Publication 9360.0-36FS
ERNS Statistics, March 1995, Publication 9360.0-37FS
ERNS and CERCLA, May 1994, Publication 9360.0-22FSA
ERNS and Oil, May 1994, Publication 9360.0-23FSA

NTIS Magnetic data tapes containing ERNS data are currently available through National Technical Information Service in Springfield, VA at (703) 487-4650. The order numbers for magnetic data tapes for 1987-1994 are as follows: 1987-- PB94-504180; 1988-- PB94-504198; 1989-- PB94-504206; 1990-- PB94-504131; 1991-- PB94-504149; 1992--PB94-504156; 1993-- PB94-504164; and 1994-- PB94-593350. A single update costs \$240 (see section on data outputs, hardware, and software requirements for further information on magnetic tapes).

Conditions of Use Generally, ERNS data are available without conditions or usage limitations. Reporting party (caller) data is typically not released.

Data Outputs, Hardware, and Software Requirements From the ERNS Information Line, ERNS data and analyses can be presented as summary release information or as standard ERNS reports. Both are available in hard copy or electronically on floppy disks. Summary release information reports are organized in table form to provide a broad overview of data. These reports are useful for analyzing trends in chemical and oil releases, or for comparing groups (e.g., total release reports involving crude oil by year).

Standard ERNS reports are either dBASE® files or one-page reports in various wordprocessing formats containing information about specific release notifications. This one-page report is best suited to presenting small subsets of data, such as notifications from a particular geographical region, on a specific chemical, or about an individual site.

Magnetic data tapes are also available through NTIS for requestors who have extensive needs for ERNS data and who have the hardware necessary to read 9 mm 6250 or 1600 bip ASCII magnetic tapes or 3480 cartridges. Included with each tape is a data dictionary that describes the fields in ERNS and a tapeout log that shows the number and lengths of records and blocks.

Training/support The ERNS Information Line provides support for ERNS-related requests and questions.

HELPFUL HINTS

- ▶ Keep in mind that most ERNS data are based on initial notification, and may not have been verified. Therefore, historical ERNS data on a specific incident may be inconsistent with data from other sources.
- ▶ Release information on specific chemicals can be searched by chemical name or CAS number.
- ▶ Because names and addresses may include misspellings or alternative spellings (e.g., avenue or ave.), a site-specific search should encompass a larger area of investigation (e.g., county) to assure that all site information will be captured regardless of any data inconsistencies in the site-specific name or address.
- ▶ Users undertaking statistical analysis should avoid small data sets because of the inaccuracy and incompleteness of the notification records.
- ▶ Users undertaking statistical analysis should be careful to consider and address multiple notification for a single release. ERNS maintains flags to minimize this problem.
- ▶ Any analysis should be sufficiently broad to minimize influence of data spikes and regulatory changes.
- ▶ Consult with the ERNS Information Line to help focus the analysis.

P r o f i l e

Acronym: ARIP
Database Name: Accidental Release Information Program
Agency Office: U.S. EPA's Chemical Emergency Preparedness and Prevention Office
Primary Contact: ARIP Manager
Contact Address: U.S. Environmental Protection Agency
Mail Code 5101
401 M Street, SW
Washington, DC 20460
Contact Phone: (202) 260-8942 or (202) 260-1448

GENERAL DESCRIPTION

The Accidental Release Information Program (ARIP) database was developed by EPA to determine the causes of accidental chemical releases, to identify the steps that could be taken by industrial facilities to prevent releases, and to outline industry prevention practices. The database is assembled from information provided by facilities that have had significant releases of hazardous substances in response to a specially designed questionnaire. The questionnaire consists of 23 questions about the facility, the circumstances and causes of the incident, the accidental release prevention practices and technologies in place prior to the event, and any additions or changes made to these technologies and practices as a result of the event. The questionnaire focuses on several areas of accident prevention including hazard assessments, training, emergency response, public notification procedures, mitigation techniques, and prevention equipment and controls. EPA is authorized to collect information on accidental releases under:

- Section 3007(a) of the Resource Conservation and Recovery Act (RCRA);
- Section 104(b)(1) and (e) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA);
- Section 308(a) of the Clean Water Act (CWA); and
- Section 114 of the amended Clean Air Act (CAA).

EPA Headquarters maintains the national ARIP database, although the EPA regions may have hard copy printouts or electronic records of the ARIP questionnaires in some cases. The ARIP database has collected over 4,800 release records since its inception in 1986. It is updated once a year.

CHARACTERISTICS OF DATA

Source ARIP data are provided by facilities that have had significant releases of hazardous substances.

ARIP (continued)

Scope

Collection of ARIP data is triggered initially by incidents reported to the ERNS system. U.S. facilities are required by law to report releases of certain substances when those releases exceed a certain chemical-specific quantity or reportable quantity (RQ). EPA periodically screens the ERNS database to find fixed facility release events that meet one or more of the following triggers:

- The release resulted in a death or injury;
- The release involved 1,000 pounds or more of a hazardous substance with an RQ of 1, 10, or 100 pounds, or the release involved 10,000 pounds or more of a hazardous substance with an RQ of 1,000 or 5,000 pounds;
- The release was the fourth through tenth release in a 12-month period (repeat release); or
- The release involved an extremely hazardous substance from section 302 of EPCRA

EPA sends a detailed questionnaire to any facility with a reported release that meets one or more of these criteria. When the questionnaire is returned, the data are recorded into the ARIP database. ARIP does not capture events associated with flammable or petroleum products.

In September 1993, the criteria for ARIP releases changed to target those accidental releases at fixed facilities that resulted in casualties with off-site consequences or environmental damage. Off-site consequences include any casualty, evacuation, shelter-in-place, or other necessary precaution taken by individuals off-site as a result of the release. Environmental damage includes wildlife kills, significant vegetation damage, soil contamination, and ground and surface water contamination. Most records in ARIP consist of incidents that took place prior to September 1993 when the less restrictive criteria was used for inclusion in the database.

Data

Limitations

For several years, the ARIP questionnaire was revised so that some information was added and other information was deleted. Thus, analysis on some datafields cannot be performed on the entire database. Also, the short description of the accident is not contained in the database and must be analyzed in the hard copy of the questionnaire. Because ARIP is designed to capture the most serious or potentially serious releases, it is not statistically representative of all industry releases. The collection of ARIP data was dependent on the sometimes uneven collection efforts of the EPA Regions; therefore, the data does not truly represent the geographic distribution of releases nor reflect release trends over time. However, the information is considered accurate because the data are provided directly by facilities several months after the release when most information should be known. The database is also periodically reviewed for data assurance/quality control to identify data entry errors, inconsistent information, or questionable data.

DATA ELEMENTS

The following key categories are included in ARIP:

- date/time of incident
- quantity released
- medium affected
- costs to facility and public
- number of deaths/injuries to workers, contractors,
- duration of release
- whether and type of hazard evaluation conducted
- cause
- release prevention practices prior to release
- release prevention practices installed after release
- environmental damage

ARIP (continued)

- responders, and public
- number evacuated or sheltered
- persons/agencies notified
- changes to training
- end effect of release (e.g., explosion, spill)
- location of release (e.g., vessel, pipe)
- how public notified
- immediate repairs

Refer to the Datafield Dictionary (Appendix B), for a complete list of ARIP data elements.

ACCESS

Availability Bulletin Board In fiscal year 1995, a bulletin board is expected to enable downloading of ARIP information. The bulletin board will have several advantages over contacting the EPA ARIP manager, including quicker and easier access, more frequent updates, and no cost for the data.

Channels for EPA Personnel EPA Headquarters and regional personnel may access ARIP by contacting the ARIP Manager or an EPA regional ARIP Coordinator.

FOIA Requests Both EPA Headquarters and regions can address ARIP information requests through Freedom of Information Act (FOIA) requests. A listing of Regional FOIA offices is referenced through the ERNS database profile. The fee schedule for FOIA requests is outlined in 40 CFR 2.120.

Published Information General ARIP information and data analysis are available in the following fact sheets and publications from the EPCRA hotline at 1-(800) 535-0202:

Accidental Release Information Program Fact Sheet, September 1991 and November 1993.

Chemical Accident Prevention Bulletin - why Accidents Occur: Insights From the Accidental Release Information Program, June 1989.

Accidental Release Information Program Implementation Guide, October 1991.

Conditions of Use Generally, ARIP data are available without conditions or usage limitations.

Data Outputs, Hardware, and Software Requirements Custom hard copy reports are available from the EPA ARIP manager. A dBase version of the database or analysis may also be available.

Training/Support The EPA ARIP manager provides support for ARIP-related requests and questions.

HELPFUL HINTS

- ▶ Because the ARIP questionnaire has changed several times, certain data may not be available for all records (e.g., cost damage data are only available starting with log number 2991, hazard evaluation data are only available starting from log number 3.55). Contact the EPA ARIP manager for further detailed information on cautions in using data.
- ▶ Release information on specific chemicals can be searched by chemical name or CAS number.

Profile

Acronym:	HMIRS
Database Name:	Hazardous Materials Incident Reporting System
Agency Office:	U.S. DOT's Research and Special Programs Administration, Information Systems
Primary Contact:	Information Systems Manager
Contact Address:	U.S. Department of Transportation, RSPA Information Systems Mail Code DHM-63 400 7th Street SW Washington, DC 20590
Contact Phone:	(202) 366-4555

GENERAL DESCRIPTION

The Hazardous Materials Incident Reporting System (HMIRS), a part of the DOT's HMIS, is a computer database that contains data on the unintentional release of hazardous materials during the course of transportation. The information is compiled in accordance with the requirements of the Federal Hazardous Materials Transportation Law (49 U.S.C. 5101). DOT regulations stemming from FHMTL require carriers to notify the NRC immediately via telephone of releases of hazardous materials occurring during the course of transportation that result in human injury or death; estimated carrier or property damage exceeds \$50,000; an evacuation of the general public occurs; one or more major transportation arteries or facilities are closed or shut down; the operational flight pattern or routine of an aircraft is altered; fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive material; fire, breakage, spillage or suspected contamination occurs involving shipment of etiologic agents; or a release of a marine pollutant in a quantity exceeding 450 L for liquids or 400 kg for solids. These telephonic notifications are received by the NRC and transmitted to the DOT-EPA's jointly managed TELERNS database. These regulations also require interstate carriers, and certain intrastate carriers, to submit written reports on all unintentional releases of hazardous materials occurring during the course of transportation. These written reports are entered into the HMIRS database. The database contains approximately 220,000 records (as of 9/94) of written reports on unintentional hazardous material releases since 1971. RSPA, the office that manages HMIRS, estimates that over 15,000 reports are received annually.

The HMIRS system is used to highlight problem areas, to pinpoint needs for corrective action, and to provide a statistical compilation of transportation incidents involving hazardous materials. Written reports to HMIRS are updated monthly; telephonic reports are entered daily.

CHARACTERISTICS OF DATA

Source	Carriers of hazardous materials are required to report certain unintentional releases that occur during transportation. The reporting process includes: (1) immediate telephone notification to NRC, and (2) a written incident report on DOT Form F5800.1, to be submitted within 30 days of the incident by a representative of the releasing carrier.
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HMIRS data are captured electronically when a written report is received by DOT. A subsystem of HMIRS contains telephonic reports received by the NRC since 1982.

Scope

HMIRS contains unintentional release reports of DOT regulated materials, CERCLA chemicals, petroleum, explosives, pesticides, and other chemicals. HMIRS also contains information on any unintentional release of hazardous materials during the course of transportation. RSPA has indicated that the number of the releases has been steadily increasing as more carriers are aware of the reporting requirements, but the number of serious incidents has remained relatively constant. Information about specific changes in the HMIRS database over time can be obtained from the Information Systems Manager at DOT/RSPA Information Systems.

HMIRS incident reports are comprised of text information boxes, check box responses, and a descriptive comment section. See Appendix A for a copy of a sample report and Appendix B for a datafields dictionary for HMIRS.

Because the HMIRS database is based on written reports submitted by the carrier, details of each release are usually accurate. The majority of HMIRS information is validated, as fatality and injury information is verified through follow-up reports, increasing the accuracy of the HMIRS data. RSPA estimates that virtually all of the approximately 175 datafields are completed for most of the incidents because written reports are filed within 30 days of the release. The HMIRS database is believed to be a highly accurate record of incidental releases of hazardous material during transportation. To attest to the completeness of the data, RSPA estimates that less than 0.1 % of the records contain duplicates. Though duplicates are possible, the data are periodically reviewed and reconciled to avoid them.

The Incident Report Form (DOT F5800.1) was revised and expanded in 1990 to capture additional location and packaging information.

**Data Quality/
Limitations**

HMIRS captures only the injuries or deaths that were a direct result of the material's release, not from the event which caused the release. For instance, if a barrel is dropped, two types of injuries could result: (1) a chemical burn from the exposed chemical and (2) an injury from the physical impact of the barrel. Only the first is recorded.

HMIRS materials are listed by their proper shipping name, which is sometimes a category (e.g., pesticides or flammables) rather than a specific chemical. Materials can not be searched by CAS Number because no CAS Number is entered into HMIRS.

HMIRS contains information reported by carriers by rail car, aircraft and vessel; interstate and foreign carriers by motor vehicle; and intrastate carriers by motor vehicle for hazardous waste, hazardous substances, flammable cryogenic liquids in portable tanks and cargo tanks, and marine pollutants. Other releases occurring during intra-state transportation by an intra-state carrier are not included.

DATA ELEMENTS

The following key categories are included in HMIRS:

- date/time of incident
- incident location
- shipper name
- carrier name

- mode of transport
- commodity involved
- release cause (e.g., vehicular accident)
- package failure information
- monetary damage estimates
- consequences: deaths, injuries, evacuations
- quantity released
- number of containers shipped

Refer to the Datafield Dictionary (Appendix B), for a complete list of HMIRS data elements.

ACCESS

Availability RSPA Information Systems Manager Currently, for industry, regulatory and enforcement support, and general public requests, the DOT, RSPA Information Systems Manager is the preferred contact to request specific data or obtain more information about HMIRS. The RSPA Information Systems Manager can be used to address questions about HMIRS and to perform reasonable data searches. The cost of these searches varies, dependent on the length and detail of the report and media requested for information. The minimum cost for a request is \$35. HMIRS information is available to federal agencies at no cost. For more information contact DOT, RSPA at (202) 366-4555.

Channels for EPA Personnel EPA Headquarters and regional personnel should contact the Information Systems Manager at (202) 366-4555 to obtain written or electronic reports, or alternatively to receive assistance interpreting the data.

FOIA Requests FOIA requests should be addressed to the FOIA Officer of the U.S. DOT, Mail Code DCR 1, 400 7th Street, SW, Washington, DC 20590.

Published Information Compiled HMIRS statistics are published biennially in the DOT/RSPA "Biennial Report On Hazardous Materials Transportation."

Conditions of Use Generally, HMIRS data is available without conditions or usage limitations.

Data Outputs, Hardware, and Software Requirements HMIRS data and analyses can be presented as summary release information or standard HMIRS reports. Both are available in hard copy or electronically on floppy disks, 9-track tapes, or VAX tape cartridges.

Standard HMIRS reports are either ASCII, EBCDIC, or xbase (DBF) files.

Training/Support The RSPA HMIRS Information Systems Manager provides support for all HMIRS-related requests and questions.

HELPFUL HINTS

- ▶ Any analysis should be sufficiently broad to minimize influence of data spikes.
- ▶ Consult with the RSPA HMIRS Information Systems Manager to help focus the analysis.
- ▶ The telephonic notification data is contained in the TELERNS database. This database is jointly managed by the DOT and EPA

Profile

Acronym:	HLPAD
Database Name:	Hazardous Liquid Pipeline Accident Database
Agency Office:	U.S. Department of Transportation Office of Pipeline Safety Research and Special Programs Administration
Primary Contact:	HLPAD Manager
Contact Address:	US, DOT Office of Pipeline Safety, RSPA 400 7th Street S.W. Washington, D.C. 20590
Contact Phone:	(202) 366-4569

GENERAL DESCRIPTION

The Hazardous Liquid Pipeline Accident Database (HLPAD) is a DOT Office of Pipeline Safety database that contains information on the accidental release of liquids. The database is a result of the Hazardous Liquid Pipeline Safety Act of 1979. The Act requires that liquid pipeline operators immediately notify the NRC via telephone of accidental releases. These telephone notifications are forwarded from the NRC to the DOT-EPA's jointly managed TELERNS database to DOT. Pipeline operators must also submit written reports on all releases. These reports are entered into HLPAD. The database's primary use is to fulfill the mandate of the Act, and to gather statistics for regulatory activity and inspection priorities. Data included in the database include background on the carrier, background on the release, cause of the accident, and consequences. HLPAD contains nearly 2,000 records. The database has been in existence since 1985 and is updated every two to four weeks.

CHARACTERISTICS OF DATA

Source	Accident information from pipeline releases is submitted by the pipeline operators on accident report forms and filed at the Office of Pipeline Safety. (See Appendix A for a copy of the report form). The information from the accident report form is verified later with the pipeline operator by an Office of Pipeline Safety contractor.
scope	The database contains information on any failure in a pipeline system where there is a release of a transported commodity resulting in any of the following consequences: explosion or fire not intentionally set by the carrier; loss of 50 or more barrels of liquid; escape to the atmosphere of more than five barrels a day of liquified petroleum gas or other liquified gas; death of any person; or property damage of at least \$50,000. The death of any person is verified by contacting the operator official that completed the accident report form.

The following is a list of the types of chemicals that are reported in the database:

- | | | |
|------------------|---------------|--------------------------------|
| • alkylate | • butane | • anhydrous ammonia |
| • carbon dioxide | • condensate | • fuel oil |
| • crude oil | • diesel fuel | • fertilizer, ammonium nitrate |

HLPAD (continued)

- gasoline
- kerosene
- toluene
- xylene
- LPG
- ethane
- transmix
- propane
- jet fuel
- oil and gasoline
- turbine fuel

Data Reports are only submitted for accidents that meet the previously mentioned criteria and are under Office of Pipeline Safety (OPS) jurisdiction; therefore, not all accidents are included in the database. The information that is submitted by the operator may not be altered until it is verified by the Office of Pipeline Safety and a supplemental report is received from the operator.

Limitations

DATA ELEMENTS

The following key categories are included in HLPAD:

- time and location of accident
- origin of release of liquid or vapor
- cause of accident
- commodity spilled
- amount spilled
- result of release (i.e., explosion, fire)
- pipeline data
- corrosion information
- information on natural and human causes
- death or injury (employees, non-employees)
- total property damage

Refer to the Datafield Dictionary [Appendix B], for a complete list of data elements.

ACCESS

Availability **FOIA Requests** Requestors can solicit information from the HLPAD through Freedom of Information Act (FOIA) requests. The information can be provided in either ASCII format or hard copy. The hourly cost for the FOIA request is about \$35. Contact the FOIA Office for the Department of Transportation at (202)366-9639 for assistance with completing FOIA requests.

Federal Government Requests Personnel from federal agencies should contact the Chief Information Officer at (202)366-4569.

Published Information The Office of Pipeline Safety Annual Report contains specific release information on pipelines. To request a copy of the report, call the Transportation Safety Institute at (405)954-4643.

Conditions of Use Certain information within the database is considered confidential (e.g., names, addresses, phone numbers) and is therefore unavailable.

Data Outputs, Hardware, and Software Requirements The Hazardous Liquid Pipeline Accident Database is available electronically on floppy disk in ASCII form or on hard copy.

HELPFUL HINTS

- ▶ When contacting the OPS, the user should specify if he or she is requesting information on hazardous liquid spills, so that natural gas release information is not included in the report.
- ▶ Pipeline accident information on fire or explosion can be accessed by searching the fire and explosion fields.
- ▶ A data schema is sent to each requestor that has the database's information provided in ASCII fixed-field form. The schema explains the coding system for fields within the database.

Profile

Acronym:	IMIS
Database Name:	Integrated Management Information System
Agency Office:	Occupational Safety and Health Administration
Primary Contact:	IMIS Manager
Contact Address:	Director, Office of Management Data Systems Occupational Safety and Health Administration Room N-3661 200 Constitution Avenue N.W. Washington, D.C. 20210
Contact Phone:	(202) 219-7008

GENERAL DESCRIPTION

The Integrated Management Information System (IMIS) is an Occupational Safety and Health Administration (OSHA) database that contains records of workplace inspections conducted by OSHA. Included in these inspections are investigations of workplace incidents where there is one fatality or five or more worker hospitalizations (changed in 1993 to three worker hospitalizations). The database is a result of inspection and information gathering, covered by Section 8 of the Occupational Safety and Health Act of 1970, 29 USC 657.

The database is used primarily as a management information system to track OSHA's activities. It maintains a record of OSHA's activities at each workplace that has been inspected. Data include name and address of the worksite, employment level, results of the inspection including all standards violated, abatement dates, any penalties assessed, and air sampling results. Data are collected by state offices that operate their own OSHA programs and by federal offices that have to implement the program in states that decline the program responsibility. The federal data have been incorporated into a database since 1972, and the state data between 1982 and 1990 were incorporated into the database.

IMIS adds more than 120,000 inspection records a year, of which 4,000-5,000 are related to accidents. For accident inspections, a short description of the incident is included and information is collected relative to each worker that is injured. This information includes the extent of the injury, coded data on the nature of the injury, and any hazardous substance that may be involved, though the vast majority of incidents do not involve the release of a hazardous substance. After an incident has been reported, it takes about a month for the data to be entered into the database. Data are entered from the area offices of OSHA and downloaded daily to the national database maintained at the OSHA Headquarters.

CHARACTERISTICS OF DATA

Source	Information from all OSHA accident inspections is gathered by the OSHA compliance officer conducting the inspection. The data are inputted into the database at the area offices.
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IMIS (continued)

Scope	The reporting requirement for IMIS has changed from five to three hospitalizations in the last year. It is estimated that there are 100 incidents reported each year involving hazardous substances. Information about specific changes in the IMIS database over time can be obtained from the IMIS contact person.
Data	Before 1990, IMIS did not contain data from some states' accident inspection reporting.
Limitations	Most of the accidents that are reported in the database are not accidents that involve chemicals. Also, when the chemicals are reported, it is difficult to ascertain if the injury from the accident was a direct result of the chemical that is listed in the record. For example, if a maintenance person cleans the inside of a storage tank and is asphyxiated by a nitrogen-rich environment, this death is not the result of an "accidental release" of a chemical from an operation.

DATA ELEMENTS

The following key categories are included in IMIS:

- name of establishment inspected
- status of hazard
- nature of injury
- environmental factor
(e.g., earthquake, chemical reaction)
- description of accident
- number of employees exposed to hazard
- information on person(s) injured
- source of injury
- event type
- hazardous substance

ACCESS

Availability OSHA Contact Line The IMIS database and information about IMIS are available by contacting the OSHA contact person. An OSHA staff person will assess the query and supply the requested information. The information in IMIS is usually free, but there may be a cost, usually under fifty dollars, if there is extensive analysis or data formatting involved.

CD-ROM OSHA is considering making the IMIS database available to the public on CD-ROM.

Published Information There is an annual report, prepared by OSHA for Congress, specific to released hazardous substances.

Conditions of Use The information in the database is not considered confidential, however, the database screens the names of the persons that have been injured.

HELPFUL HINTS

- Search the hazardous substance field to identify the less than 300 major hazardous substance releases. To further identify those records that directly relate the hazardous substance release with a consequence (e.g., death, injury), search the event type data field for fire, explosion, gas release, etc. The search could be focused on records in the petroleum and chemical industry. For the records identified through the initial screening, the requestor might have to read through each description paragraph and determine whether the consequences are linked to a hazardous substance release.

Profile

Acronym:	HSEES
Database Name:	Hazardous Substances Emergency Events Surveillance
Agency Office:	Agency for Toxic Substances and Disease Registry
Primary Contact:	HSEES Manager
Contact Address:	Agency for Toxic Substances amid Disease Registry Public Health Service Atlanta, Georgia 30333
Contact Phone:	(404) 639-6203

GENERAL DESCRIPTION

The Hazardous Substances Emergency Events Surveillance (HSEES) system is an Agency for Toxic Substances and Disease Registry (ATSDR) database that describes the release or threatened release of hazardous substances and the resulting public health consequences (e.g., death, injuries, evacuations). The primary focus is acute effects. The database was developed because ATSDR determined that the public health consequences of hazardous substance releases have not been adequately characterized by other databases. The database, implemented in 1990, is based on state-collected data. As of January 1, 1995, 14 state health departments collect data for HSEES, by documenting the total number of hazardous substance emergencies that occur within their respective states. During 1990-1992, 3,125 events were reported from participating states. The HSEES's primary purpose is to determine the distribution of hazardous substance emergencies, to identify the morbidity and mortality experienced by employees, responders, and the general public, to identify risk factors associated with the morbidity and mortality, and to establish prevention strategies.

CHARACTERISTICS OF DATA

Source Once a hazardous substance emergency has occurred within a participating state, the state agency notifies the health department within 48 hours. The state health department then collects information about the emergency on a data collection form and enters it into a dBase IV program. The data collection forms, designed by ATSDR, include information on the event, chemicals, victims, injuries, and evacuations. State health departments use a variety of data sources, such as records or personnel from state environmental protection agencies, police or fire departments, or hospitals. On a quarterly basis, the state health departments send electronic data to ATSDR.

Scope Hazardous substance emergency events are defined as uncontrolled or illegal releases or threatened releases of chemicals, or their hazardous by-products. The reportable chemicals include all hazardous substances except petroleum products.

Events are included in the database when the amount of product released needs to be removed, cleaned up, or neutralized according to federal, state, or local law; or when there is only a threatened release of one of the chemicals listed above, but this threat leads to an action (e.g., evacuation). Victims are defined as those individuals who suffer at least

one injury as a consequence of the event. HSEES includes data on hazardous substance emergencies for both transportation and fixed facility events.

Data Quality/ Limitations The information from the data collection is considered reliable because it is an active state-based system that collects data in a timely fashion. Data completeness is assessed quarterly through error-checking programs, and system sensitivity is assessed in comparison with events reported to national databases. Consistency of data reporting between states is ensured by training manuals, case studies, and a newsletter clarifying questions from participating states.

DATA ELEMENTS

The following key categories are included in the Hazardous Substances Emergency Event Surveillance:

- event identification and notification
- morbidity and mortality
- types of injuries (e.g., trauma, nausea)
- evacuation and in-place sheltering
- substance, chemical, or trade name
- exposure or potential exposure population within specified radii of the event
- demographic characteristics of victims

ACCESS

Availability The HSEES database is not intended to be directly available to the public or other interested parties. Instead, the information is available through requested searches and published results.

Federal Government Requests Personnel from Federal agencies should contact the HSEES Manager at (404) 639-6203.

Published Information There is an annual report called the Hazardous Substances Emergency Events Surveillance Annual Report. To request a copy of the report, contact the HSEES Manager at (404) 639-6203. Summaries of analyses are published periodically in journal articles. Publications include:

Hall HI, Dhara VR, Kaye WE, Price-Green, PA,, "Surveillance of Hazardous Substance Releases and Related Health Effects". ***Archives of Environmental Health***. January/February 1994, Volume 49(1); pages 45-48.

Hall HI, Dhara VR, Price-Green, PA, Kaye WE., "Surveillance for Emergency Events Involving Hazardous Substances - United States 1990-1992", MMWR. *Center for Disease Control Surveillance Summaries*. July 22, 1994, Volume 43, No. SS-2.

Short Descriptions of Additional Federal Release Information/Databases

The following databases and information sources were not featured as profiles, but they do contain certain chemical release information. They were developed to meet federal agency goals and to satisfy regulatory requirements.

1. Coast Guard Marine Safety Information System (MSIS): DOT

The Marine Safety Information System (MSIS), maintained by the United States Coast Guard, gathers information on about 12,000 fixed facilities and transportation accidents per year. Chemicals covered include petroleum, and CERCLA and non-CERCLA substances.

MSIS automates critical Coast Guard data gathering activities to provide support to overall mission performance. The data includes vessels' history, waterfront facilities, involved parties, and vessel owners and operators. The information is used to prioritize boardings to maximize use of Coast Guard resources for prevention, response, investigations, ship inspections, and pollution response.

MSIS is accessed by Coast Guard Marine Safety Offices throughout the United States, district offices, and headquarters. MSIS captures the majority of the data that the Office of Marine Safety, Security and Environmental Protection uses to carry out its missions.

2. Acute Hazardous Events (AHE) Database: EPA

The Acute Hazardous Events database, developed by EPA, provides a historical perspective on the magnitude of chemical accidents in the United States in response to the Bhopal, India disaster. The database contains about 6,200 records that represent information on roughly 11,000 incidents that occurred primarily between 1982 and 1986. Data on the events were collected from a variety of sources including the United Press International (UPI), Associated Press (AP), 26 daily newspapers, EPA Region VII office files, six offices of five state governments, and from spill reports to the National Response Center (NRC). The data collection was only intended to provide a "snapshot" of the number of chemical accidents occurring at fixed facilities and transportation, fire and explosion events, toxic releases, and the degree of deaths, injuries, evacuations and environmental damage associated with these kinds of incidents in the United States. The data is provided by secondary sources and has not been thoroughly verified. Therefore, caution should be used when interpreting certain findings.

3. Pollution Reports (POLREPS): EPA/Coast Guard

POLREPS are files and reports from follow-up removal actions of reportable quantity (RQ) events, as required by 40 CFR 300.135(m). The U.S. Coast Guard On Scene Coordinator (OSC) submits pollution reports (POLREPS) to USCG District Commanders, and to the Director, Emergency Response Division of EPA for the purpose of communicating CERCLA response and fund obligation data to EPA. POLREPS provide factual operational data relating to a release, specifically, a site description, incident description, preliminary assessment results, response activities, and project cost information. The initial POLREP will be sent within 24 hours of initiating a response action, if information is available. Once the initial report is completed, POLREPS would be sent on a routine basis (daily, or as significant developments warrant). When the Regional Response Team (RRT) is activated for a specific incident, the RRT shall submit POLREPS to the NRC in a timely manner as significant developments occur (but not later than 1600 local time on each day of operation).

4. CERCLIS: EPA

EPA's Office of Emergency and Remedial Response maintains CERCLIS, a national computerized program management and inventory system for sites reported to Superfund for potential remediation. CERCLIS contains information on all aspects of potential hazardous waste sites from initial discovery to listing on the National Priorities List (NPL). Data provided in CERCLIS include site names, geographic location, remedial actions taken or proposed under the Superfund program, and major events in site cleanup. CERCLIS operates on the EPA mainframe computer. Regional program offices and, to a limited extent, the U.S. Corps of Engineers enter new facility reporting data directly into the system and update old data periodically. CERCLIS use is restricted to EPA and other government agencies. Reports and tapes containing the site inventory and site assessment activity information are available from NTIS.

5. OSC/NRT Reports: EPA/Coast Guard

Current CERCLA regulations require the submission of OSC reports within one year of completion of removal actions, or when requested by the Regional Response Team. The original purpose of these reports was to summarize activities at the site, communicate lessons learned, discuss any problems encountered in the response, and recommend improvements that need to be shared throughout the response community. OSC reports should cover all of the topics listed at 40 CFR 300.165(b), and reference other information sources such as the administrative record, the pollution reports, the site log book, and the OSC log book. On October 22, 1993, EPA proposed in the Federal Register to delete the current requirement in §300.165 to prepare OSC reports for all responses to major discharges or releases. In revising the National Contingency Plan, EPA has recognized that OSCs have extensive responsibilities and that responding to discharges is a higher priority than drafting the OSC report. As requested by the NRT or RRT on a case-by-case basis, however, the OSC or remedial project manager (RPM) shall submit to the NRT or RRT a complete report on the removal operations and the actions taken. These new regulations went into effect in October 1994 (30 days after publication of the final rule in the Federal Register on September 15, 1994).

6. Toxic Release Inventory (TRI): EPA

The Toxic Release Inventory (TRI) is a publicly available database that contains information on routine emissions and accidental releases of specific toxic chemicals from manufacturing facilities throughout the United States. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), which Congress passed to promote planning for chemical emergencies and to provide information to the public about the presence and release of toxic and hazardous chemicals in their communities. Following passage of the Pollution Prevention Act of 1990, the TRI was expanded to include mandatory reporting of additional waste management and pollution prevention activities, and the list of substances was expanded from about 300 to nearly 600 for the 1995 reporting year. The chemical-specific and facility-specific information collected under these laws can be used by the public to identify facilities and release patterns that warrant further study and analysis. Combined with hazard and exposure information, TRI has been used for risk identification. As of 1992, the TRI included over 80,000 reports from approximately 23,000 facilities each year. However, it captures only a portion of all toxic chemical releases nationwide. Facilities that have fewer than 10 employees, do not meet chemical thresholds, or are non-manufacturers are not required to file TRI reports.

7. Occurrence Reporting and Processing System (ORPS): DOE

The Occurrence Reporting and Processing System database provides the Department of Energy (DOE) with a readily accessible database containing information about occurrences¹ at DOE facilities, causes of those occurrences, and corrective actions. This information can be used to identify and analyze trends in occurrences. The database resides on a host computer at the Idaho National Engineering Laboratory in Idaho Falls, Idaho, and can be accessed from any DOE site via computer 24 hours a day. Since September 1, 1990, approximately 6,000 to 8,000 occurrence reports have been entered annually.

8. Natural Gas Pipeline Incidents: DOT

Release information on natural gas pipelines is collected in a reporting system by DOT's Office of Pipeline Safety. This system contains the number of natural gas pipeline fatalities, injuries, dollar amount of property damage, location and time of incident, cause, and where/what part of the system failed. The database contains over 2,400 records since data was collected in 1984.

9. National Fire Incident Reporting System/FEMA (NFIRS): USFA

The National Fire Incident Reporting System (NFIRS), maintained by the U.S. Fire Administration (USFA), is a data collection system with information on fires. NFIRS gathers data from 41 states. In 1990, data on hazardous materials incidents began to be collected in the NFIRS System. In the first year, information was collected from only five or six states and approximately 85 incidents were recorded. The first full year that data were collected using this system was 1991; however, only a small number of states were involved. In 1992, states representing approximately 210 fire departments were supplying data. For the first half of 1992, over 600 hazardous materials incidents were reported. Among the data fields used in this system are the type of site (fixed or transportation), the chemical involved, and the injuries and deaths resulting from the incident. NFIRS has been used to analyze factors involved in fire incidents and, in some cases, has brought about changes leading to increased safety.

¹ Under DOE Order 5000.3A, occurrences are defined as all events or conditions that could: (1) affect the health and safety of the public; (2) seriously impact the intended purpose of DOE facilities; (3) have a noticeable adverse effect on the environment; or (4) endanger the health and safety of workers. Occurrences are categorized by their seriousness to ensure the more serious occurrences are highlighted to management. The categories are defined in DOE Order 5000.3A.

IV. QUICK CROSS REFERENCE TO DATABASES

Quick cross references to the federal accident release databases enable the user to compare databases and determine which ones provide relevant information. While a detailed description of each database is valuable, users should review cross references and summary data. Such review is especially useful if users are unsure which database will meet his or her needs or if users want a quick comparison of the information in the databases. The following four exhibits in this section serve as cross references:

- **Exhibit 4:** Quick reference on scope of databases
- **Exhibit 5:** Comparison of data elements in databases
- **Exhibit 6:** Specific database information contained in each data element
- **Exhibit 7:** Top five chemicals or substances (non-petroleum) found in each database

Users who are largely unfamiliar with the databases may need to start with **Exhibit 4** to decide which databases are most appropriate for their analyses. Users may wish to consult **Exhibits 5, 6, and 7** to further match a database to their specific informational demands. Users who already have a detailed list of informational requirements may wish to start with **Exhibits 5 and 6**.

Exhibit 4 briefly reviews the scope of each of the seven federal accident release databases and includes such information as the government agency providing the database, chemicals covered, number of records, and selection criteria. The exhibit also comments on data limitations and quality issues such as the degree of verification, whether the information is based on notifications, and whether there are missing data. From the exhibit, the user can gain a quick comparison of and “feel for” the databases and can screen the databases for the general types of releases included.

Exhibit 5 provides a comparison of the data elements in the seven databases. Data elements (e.g., date of release, primary release cause) are grouped into seven broader data categories: event reporting information, facility/release location, release information, release cause, damages, cleanup action, and general remarks. A check mark indicates if a data element is addressed in a particular database, though data elements may not be in the same format (e.g., coded, text). Users will benefit most from this exhibit once they have already defined the types of data elements to be included in their information request or analysis. Also, a reference page number is provided for each data element that refers the user to more detailed information in **Exhibit 6**.

Exhibit 6 includes a description of the types of database information contained within each data element of the databases. This exhibit is helpful when the user’s proposed data search or analysis demands a close look at the way the database covers specific types of information under each data element. For example, if the analysis requires the distinction between employee injuries and public injuries, the user should consult this exhibit to identify databases that make this distinction.

Exhibit 7 lists the five most frequently reported chemicals or substances (non-petroleum) in each database. The chemicals that are reported are indicated with a check mark. Users will find this exhibit helpful in attempting to determine which databases have the most information on particular chemicals (e.g., ammonia).

EXHIBIT 4
QUICK REFERENCE: SCOPE OF DATABASES

DATABASE SCOPE	FEDERAL DATABASE						
	IRIS	ERNS	ARIP	HMIRS	HLPAD	IMIS	HSEES
<i>Government agency</i>	NRC	EPA	EPA	DOT	DOT	OSHA	ATSDR
<i>Chemicals covered</i>	CERCLA hazardous substances, oil products, and other substances	CERCLA hazardous substances, oil products, and other substances	CERCLA and EPCRA listed chemicals	FHMTL chemicals; also CERCLA hazardous substances, petroleum, explosives, pesticides, others	20 chemicals covered as petroleum and toxic products	All hazardous substances, liquids, dust particles, petroleum products, gases, flammable liquids	All hazardous substances except petroleum products
<i>Industries covered</i>	All	All	All	Hazardous materials carriers and shippers	Pipeline carriers of hazardous liquids	All	All
<i>Transportation - related?</i>	Yes	Yes	No	Yes	Yes	Possible	Yes
<i>Fixed facility-related?</i>	Yes	Yes	Yes	No	No	Possible	Yes
<i>Number of records</i>	~33,000 per year/330,000 since 1982	-42,000 per year/-300,000 since 1986	-4,800	15,000 reports per year/-220,000 total	-200 per year/-2,000 total	-120,000 inspections per year	3,125 records from 1990-92

EXHIBIT 4 (continued)
QUICK REFERENCE: SCOPE OF DATABASES

DATABASE SCOPE							
	IRIS	ERNS	ARIP	HMIRS	HLPAD	IMIS	HSEES
<i>Criteria for selecting releases</i>	1) Release above reportable quantity (RQ); 2) oil release violates water standards, causes a film, sheen, or sludge; 3) other chemical release meets HMTA or pipeline safety criteria	1) CERCLA release above reportable quantity (RQ); 2) oil release violates water standards, causes a film, sheen, or sludge; 3) other chemical release meets HMTA or pipeline safety criteria	Subset of ERNS releases and meets one of four ARIP criteria: 1) causes death/injury; 2) multiple of RQ; 3) repeat release; 4) EHS	Any unintentional release of hazardous material during the course of transportation	Explosion/fire, or loss of 50 or more barrels of liquid, or release of more than five barrels per day of liquified gas, or death, or property damage of at least \$50,000	No release trigger, incidents selected if involves 3 injuries requiring hospitalization	All hazardous substance releases except petroleum products occurring in the participating states are included
<i>Limitations/Quality:</i>							
1) <i>Information Verified?</i>	Some	Most not	Y e s	Yes	Yes	Yes	Yes
2) <i>Notification Information?</i>	Yes	Yes	No	Yes with follow-up	Yes with follow-up	Yes with follow-up	Largely not
3) <i>Missing data?</i>	Yes	Yes	No	Yes	No	No	No
4) <i>Comment</i>	Impacts may not be related to chemical release; some inaccuracies because data source is only initial notification	Impacts may not be related to chemical release; some inaccuracies because data source is only initial notification	Only most severe accidents; criteria and ARIP questionnaire has changed over time, therefore, not all data are consistent or comparable	Sometimes chemical information provided as category (e.g., flammables) rather than individual chemical name	Not all liquid pipeline accidents are reported in database	Injuries or deaths may not be related to chemical release	Current information in database is collected from 14 state health departments
<i>Years collected</i>	1974 - present	1986 - present	1986 - present	1971 - present	1985 - present	1972 - present	1990 - present

EXHIBIT 5
COMPARISON OF DATA ELEMENTS IN FEDERAL HAZARDOUS SUBSTANCE RELEASE DATABASES

DATA CATEGORY	DATA ELEMENT	FEDERAL DATABASES							REFERENCE PAGE FOR MORE INFO.
		IRIS	ERNS	ARIP	HMIRS	HLPAD	IMIS	HSEES	
<i>Event reporting information</i>	<i>Reporting party</i>	✓	✓	✓	✓	✓	✓		47
	<i>Date and time reported</i>	✓	✓		✓	✓	✓		47
<i>Facility/release location</i>	<i>Facility name and address</i>	✓	✓	✓	✓	✓	✓		48
	<i>Release location</i>	✓	✓	✓	✓	✓	✓		48
<i>Release information</i>	<i>Date and time of release</i>	✓	✓	✓	✓	✓	✓	✓	49
	<i>Transportation release</i>	✓	✓		✓	✓		✓	49
	<i>Facility release</i>	✓	✓	✓			✓	✓	49
	<i>Substance involved</i>	✓	✓	✓	✓	✓	✓	✓	49
	<i>Quantity/concentration</i>	✓	✓	✓	✓	✓			49
	<i>Affected medium</i>	✓	✓	✓					50
	<i>End result/type of release</i>			✓	✓	✓	✓		50
<i>Release cause</i>	<i>Primary cause</i>	✓	✓	✓	✓	✓	✓	✓	51
	<i>Secondary cause</i>			✓					51
	<i>Packaging/equipment information</i>	✓	✓	✓	✓	✓	✓		51

EXHIBIT 5 (continued)
COMPARISON OF DATA ELEMENTS IN FEDERAL HAZARDOUS SUBSTANCE RELEASE DATABASES

DATA CATEGORY	DATA ELEMENT	FEDERAL DATABASES							REFERENCE PAGE FOR MORE INFO.
		IRIS	ERNS	ARIP	HMIRS	HLPAD	IMIS	HSEES	
<i>Damages</i>	<i>Deaths</i>	✓	✓	✓	✓	✓	✓	✓	52
	<i>Injuries</i>	✓	✓	✓	✓	✓	✓	✓	52
	<i>Evacuation</i>	✓	✓	✓	✓			✓	52
	<i>Property damage</i>	✓	✓	✓	✓	✓			52
	<i>Environmental damage</i>		✓	✓	✓				52
<i>Cleanup action</i>	<i>Stabilization and control measures</i>	✓	✓	✓					53
	<i>Notification</i>	✓	✓	✓	✓	✓			53
	<i>Prevention/repairs</i>	✓	✓	✓		✓			53
<i>General remarks</i>	<i>General remarks</i>	✓	✓		✓		✓		53

EXHIBIT 6
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: EVENT REPORTING INFORMATION		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
<i>Reporting party</i>	IRIS	Individual/company, address
	ERNS	Individual/company, address
	ARIP	Questionnaire respondent
	HMIRS	Individual/company, address
	HLPAD	Operator information
	IMIS	Accident compliance officer
	HSEES	
<i>Date and time reported</i>	IRIS	Date, time
	ERNS	Date, time
	ARIP	
	HMIRS	Date, time
	HLPAD	Date, time
	IMIS	Date
	HSEES	

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: FACILITY/RELEASE LOCATION		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
<i>Facility name and address</i>	IRIS	Company, address, city, county, state
	ERNS	Company, address, city, county, state, Dunn and Bradstreet number
	ARIP	Facility name, facility address, owner name, owner address, Dunn and Bradstreet number
	HMIRS	Carrier, address, city, state
	HLPAD	Company name
	IMIS	Facility name, address, city, state
	HSEES	
<i>Release location</i>	IRIS	Spill location, city, county, region
	ERNS	Spill location, city, county, region, longitude/latitude, address in comment field
	ARIP	Location of release within facility, longitude/latitude
	HMIRS	Location of incident (city, county, state, route)
	HLPAD	Spill location (city, county, state, offshore coordinates)
	IMIS	Same as facility name and address
	HSEES	

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: RELEASE INFORMATION		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
Date and time of release	IRIS	Date, time
	ERNS	Date, time
	ARIP	Date, time release occurred; date, time release ceased
	HMIRS	Date, time
	HLPAD	Date, time
	IMIS	Sometimes provided in general comment field
	HSEES	Date, time
Transportation release	IRIS	Transportation mode, vessel/vehicle number
	ERNS	Transportation mode, vehicle number, indicates if release caused by transportation accident
	ARIP	
	HMIRS	Mode of transport, shipment information, type of vehicle
	HLPAD	Year equipment installed, above/below ground pipeline
	IMIS	
	HSEES	Indicates transportation release
Facility operations and release	IRIS	Capacity of facility
	ERNS	Capacity of facility, indicates if fixed facility release
	ARIP	Year operations began, SIC code, primary product, status of operations at time of release, current status of operations
	HMIRS	
	HLPAD	
	IMIS	Sometimes provided in comment field: SIC code, facility violations
	HSEES	Indicates fixed facility release
Substance involved	IRIS	CHRIS code, material name
	ERNS	CHRIS code, material name, CAS number
	ARIP	Chemical name, CAS number, physical state
	HMIRS	Shipping name, trade name, hazard class
	HLPAD	Commodity spilled
	IMIS	Hazardous substance code
	HSEES	Chemicals (grouped by categories)-- can record several chemicals per release

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: RELEASE INFORMATION		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
Quantity/concentration	IRIS	Quantity, quantity in water, units
	ERNS	Quantity, quantity in water, units
	ARIP	Quantity, units, concentration, method/source of information
	HMIRS	Quantity, units
	HLPAD	Amount spilled in barrels
	IMIS	
	HSEES	
Affected medium	IRIS	Medium type (air, groundwater, land, water), waterway affected
	ERNS	Medium (air, groundwater, land, water, within facility, codes for specific water/land body affected (e.g., canal), name of waterway)
	ARIP	Quantity released to each media (air, water, land, treatment facility), unit, method/source of information
	HMIRS	
	HLPAD	
	IMIS	
	HSEES	
End result/type of release	IRIS	
	ERNS	
	ARIP	Spill, vapor release, fire, explosion, etc.
	HMIRS	Spill, vapor release, fire, explosion, etc.
	HLPAD	Fire, explosion
	IMIS	Some information in source of injury codes (fire, pressure)
	HSEES	

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: RELEASE CAUSE		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
Primary cause	IRIS	Transportation accident, equipment failure, operator error, etc.; description of cause
	ERNS	Transportation accident, equipment failure, operator error, etc.
	ARIP	Equipment failure, operator error. unset condition. etc.
	HMIRS	General cause
	HLPAD	Corrosion. failed weld, operator error. etc.
	IMIS	Human and environmental (e.g., earthquakes) factor codes
	HSEES	
Secondary cause	IRIS	
	ERNS	Recently added 50 secondary cause codes
	ARIP	Same as for primary cause
	HMIRS	
	HLPAD	
	IMIS	
	HSEES	
Packaging/equipment information	IRIS	Container type
	ERNS	Container type, source of release
	ARIP	Condition of releasing equipment at time of release
	HMIRS	Nature of packaging failure, packaging information
	HLPAD	Place of release (e.g., valve, tank), system involved (line pump, tank farm), pipe tests
	IMIS	Sometimes provided in comment field
	HSEES	

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: DAMAGES			II
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION	
Deaths	IRIS	Number, sometimes additional information in comment field	
	ERNS	Number, sometimes additional information in comment field	
	ARIP	Yes/no; number among facility employees, general public, contractor, responder	
	HMIRS	Number	
	HLPAD	Number of total deaths, employee deaths, non-employee deaths	
	IMIS	Information on person(s) killed	
	HSEES	Deaths of employees, responders, public; age and gender profile	
Injuries	IRIS	Number, sometimes additional information in comment field	
	ERNS	Number, sometimes additional information in comment field	
	ARIP	Number injured and number hospitalized among facility employees, general public, contractor, responder	
	HMIRS	Number of minor and major injuries	
	HLPAD	Number of total injuries, employee injuries, non-employee injuries	
	IMIS	Hospitalized, non-hospitalized, type (bum), body part injured	
	HSEES	Number and type of injuries (trauma) for employees, responders, public; age and gender profile	
Evacuation	IRIS	Yes/no, number evacuated, sometimes additional information in comment field	
	ERNS	Yes/no, number evacuated, sometimes additional information in comment field	
	ARIP	Number of facility employees, public, contractors, responders evacuated or sheltered; date and time	
	HMIRS	Number evacuated	
	HLPAD		
	IMIS		
	HSEES	Evacuation and in-place sheltering	
Property damage	IRIS	Yes/no, dollar amount, sometimes additional information in comment field	
	ERNS	Yes/no; dollar amount, sometimes additional information in comment field	
	ARIP	Recently added facility costs, public costs	
	HMIRS	Dollar estimate	
	HLPAD	Dollar estimate	
	IMIS		
	HSEES		
Environmental damage	IRIS	Air pollution, sewage, water quality, sometimes additional information in comment field	
	ERNS	Release threat (drinking water contamination, ecological damage, soil contamination, wetlands contamination, etc.), sometimes additional information in comment field	
	ARIP	Yes/no (fishkills, vegetation damage, groundwater contamination, etc.)	
	HMIRS	Yes/no	
	HLPAD		
	IMIS	Contributing environmental factors	
	HSEES		

EXHIBIT 6 (continued)
DATABASE INFORMATION CONTAINED IN EACH DATA ELEMENT

DATA CATEGORY: CLEANUP ACTION		
DATA ELEMENT	FEDERAL DATABASES	DATABASE INFORMATION
Stabilization and control measures	IRIS	Description
	ERNS	Description
	ARIP	Yes/no cleanup, party responsible, date cleanup ceased, completion date, immediate response activities
	HMIRS	
	HLPAD	
	IMIS	
	HSEES	
Notification	IRIS	Notification of federal (e.g., OSHA, FEMA, DOD, EPA) and state authorities, caller notifications
	ERNS	Notification of federal (e.g., OSHA, FEMA, DOD, EPA) and state authorities, caller notifications
	ARIP	Notification of federal, state, and local authorities, general public; time; persons
	HMIRS	Organizations contacted, caller notifications
	HLPAD	Telephone report, time
	IMIS	
	HSEES	
Prevention/repairs	IRIS	Actions taken to correct or mitigate incident (comment field)
	ERNS	Actions taken to correct or mitigate incident (comment field)
	ARIP	Prevention practices and policies when release occurred, equipment repairs and/or replacements, preventive measures, hazard evaluations, training
	HMIRS	
	HLPAD	Existence of damage prevention program
	IMIS	
	HSEES	Use of personal protection equipment

DATA CATEGORY: GENERAL REMARKS		
DATA ELEMENT		DATABASE INFORMATION
General remarks	IRIS	Miscellaneous information
	ERNS	Miscellaneous information
	ARIP	
	HMIRS	Miscellaneous information
	HLPAD	
	IMIS	Summary of incident
	HSEES	

EXHIBIT 7
TOP FIVE CHEMICALS OR SUBSTANCES (NON-PETROLEUM) IN EACH FEDERAL ACCIDENTAL RELEASE DATABASE

CHEMICAL/ SUBSTANCE	FEDERAL DATABASES						
	IRIS	ERNS	ARIP	HMIRS	HLPAD ¹	IMIS	HSEES
<i>Acids</i>						✓	✓
<i>Ammonia</i>	✓	✓	✓		✓	✓	✓
<i>Ammonium nitrate fertilizer</i>					✓		
<i>Carbon dioxide</i>					✓		
<i>Chlorine</i>	✓	✓	✓			✓	
<i>Compound cleaning liquid corrosive</i>				✓			
<i>Corrosive liquid nos</i>				✓			
<i>Ethylene glycol</i>	✓	✓					
<i>Flammable liquid nos</i>				✓			
<i>Herbicides</i>							✓
<i>Hydrogen sulfide</i>			✓			✓	
<i>Metals</i>							✓
<i>Methylene chloride</i>						✓	
<i>Polychlorinated Biphenyls</i>	✓	✓					
<i>Resin solution</i>				✓			
<i>Sulfur dioxide</i>			✓				
<i>Sulfuric acid</i>	✓	✓	✓	✓		✓	
<i>Volatile organic compounds</i>					✓		✓

Note: Data based on cumulative reports for IRIS, ERNS, ARIP, IMIS, and HSEES, and on 1993 reports for HMIRS.

¹HLPAD contains primarily petroleum-related data; four chemicals are reported in the database.

V. LOOKING TO THE FUTURE - LINKING DATABASES

Most analyses of accidental releases are addressed within the scope of a single database. Although within the family of federal accidental release databases considerably larger numbers of incidents can be found and in most cases more extensive and accurate information on incidents exist, few users have ever searched using more than a single database. This is because it is difficult and cumbersome to link an incident from one database to the same incident in another database since most federal accidental release databases lack comparability. Given the importance of the information that has been collected and the value of being able to assemble this information and gain a better understanding of various accidental releases as well as a more complete national (as well as regional, state or local) picture of the types of releases that are taking place, this chapter begins to address the issue of database linkages by discussing the value of linking the databases, general approaches for performing various types of linkages, and future opportunities for conducting comprehensive searches on linked databases.

Value of Linking Databases

Many users of this guide, including federal, state, and local officials, industry, environmental groups, and the public, are interested in conducting comprehensive searches and analyses that span several different databases. Described below are ways that linked databases can benefit such users,

Support Public Policy and Regulatory Analyses and Decisions. A comprehensive analysis of the “accident problem” by examining multiple accident databases may be necessary for certain policy and regulatory decisions. The absence of comparable databases slows any analyses of accident data and limits the information available for public policy analyses and decisions. Policy issues and regulatory analyses whose scope extends beyond one or two databases are candidates for database linkage. Efforts to link databases are time-consuming and require careful planning. If such linkages were already established, more thorough comprehensive analyses could be applied to public policy decisions.

Enhance Enforcement/Inspection/Accident Investigation. Easy access to linked databases may help federal and state officials set priority for enforcement and inspections of facilities. Linked data may also directly point to a lack of compliance in reporting. For example, HMIRS is periodically linked to the railroad and highway accident databases to compare records and to identify incidents that should have been reported to HMIRS by the carrier or responsible party. The linked information may also provide additional background for the facility visit/accident investigation and may point to certain problems and potential release prevention measures.

Support Special Studies. Special studies such as the Report to Congress on Hydrogen Fluoride would have benefitted from comparable federal accidental release databases. The Hydrogen Fluoride (HF) study examined separately the ARIP, HMIRS, and ERNS databases. Conclusions about HF releases were provided for each database. In addition, a linked database was necessary to provide a few overall findings. Combining the databases for this specific study proved a time-consuming, costly, and difficult task.

Support Coordination of Accident Analyses among Government Agencies. Promoting comparable databases would encourage coordination among government agencies. Agencies might share insights, skills, and accident analyses. For example, regular meetings of an existing multi-federal agency accident work group provides a forum for the agency representatives who maintain the accident databases to learn and discuss database coordination issues. Other forums to encourage database coordination include conferences, regular meetings through the National Response Team, an interagency task force, and newsletters.

Enhance International Cooperation. International cooperation and information exchange is becoming increasingly important with growing concerns about hazardous substance use, past catastrophic accidental releases, and the potential for cross-border accidents. Information exchange on releases of hazardous substance incidents can build trust and international support to prepare for, prevent, and respond to such incidents. Coordination of accidental release databases in the United States could provide important, comprehensive information and analyses to be shared with other countries. For example, as a delegate to the Group of Experts on Chemical Accidents sponsored by the Organization for Economic Cooperation and Development (OECD), the United States and other countries have agreed to complete an accident form if an incident meets certain criteria. To decide if the incident meets the criteria and to complete the form, the U.S. will need to rely on several different databases. Linked databases that are updated periodically can provide a centralized resource for one federal agency to complete the accident form efficiently within the required two week period after a major release event.

Linking Databases

What is meant by linking databases? Linking can mean several different things. It could mean that connections or bridges are established among the databases through common release identifiers (e.g., release date, facility name) to enable the user to access various database information on a particular incident. This linkage basically establishes a pointer system which allows quick identification of release information in the individual databases, but preserves the integrity of each. For example, a linkage would enable a user to search for a release on October 1, 1992 at Facility X in any of the databases and access particular release information contained in each database. This linkage is valuable if specific release information, not aggregate analysis, is desired.

Linking can also refer to the combination of several databases into one. A combined database enables more comprehensive aggregate analysis but leaves data gaps (because different information is contained in different databases). Such a linkage also requires difficult choices when discrepancies in information exist among databases to be combined. Decisions must also be made about whether an information category in one database (e.g., release quantity to water) is truly the same category of information in another database (e.g., release quantity to navigable waterway).

A third kind of linkage could result in a smaller scale combined database. This linkage would combine only data elements (information types) that are common to most databases. The purpose is to increase the number of release records available (after eliminating duplicates) for the analysis without including unique information from individual databases (e.g., environmental damage) that would complicate a linkage. This linkage eliminates data gaps and enables core aggregate analysis (e.g., number of releases per year in the U.S.) to be conducted.

One possible use of a smaller scale combined database would be to perform an analysis on a specific chemical. For example, selected data elements on hydrogen chloride releases in ARIP could be directly appended to the hydrogen chloride data elements from HMIRS because the databases have different scopes (e.g., ARIP covers fixed facility and HMIRS covers transportation releases). Then, the common data elements "number of major/hospitalized injuries" and "quantity released" could be analyzed to determine, for example, the relationship between release size of hydrogen chloride and number of injuries. Even with this relatively simple linkage and analysis, there is at least one issue to resolve. The ARIP database has separate data elements that pertain to hospitalization of facility employees, contractors, responders, and the public. The numbers will have to be totalled and placed in a new data element which can then be appended to the HMIRS data element on the "number of major/hospitalized injuries".

Basis of the Linkage - Common Data Elements

Data elements refer to the **specific type** of information contained in the database. Examples include time and date of release, substance and quantity released, and number of injuries. A requirement for performing any of the above database linkages is to identify key common data elements which can be used to establish linkages. Data elements in one database are common to data elements in another database if the information contained in them is similar. For example, “release quantity” from one database could be considered common to “spilled quantity” in another database. However, the precise definition of the data elements, which often differs among databases, should be acquired and evaluated before data elements are considered common.

Common data elements do not mean that the data are always directly comparable. For example, release quantities may still be common even though one database may list the release quantity in pounds and the other database lists it in gallons. Also, “chemical released” is considered a common data element though one database may provide the information as a formal name and another may list it as a CAS number. In addition, common data elements usually have different computer formats for the information (e.g., field width, field type as character or numeric). Differences such as those listed above can be adjusted for consistency.

A side-by-side comparison was performed of the seven federal accidental release databases featured in this user’s guide to identify common data elements. The data elements that are common to at least five of these databases include:

- | | |
|----------------------------------|--|
| ▶ Facility name/address | ▶ Packaging/equipment information |
| ▶ Release quantity/concentration | ▶ Number of deaths |
| ▶ Chemical released | ▶ Number of injuries |
| ▶ Release state | ▶ Number of evacuees |
| ▶ Release city | ▶ Reporting party |
| ▶ Time/date of release | ▶ Property damage |
| ▶ Primary cause | ▶ Type of release (transportation, facility) |
| ▶ NRC number | |

Although the data elements are common, the precise way the information is expressed and the computer format may differ from database to database.

Most common data elements are not useful for linking databases because they are not release specific (e.g., chemical name) or do not contain easily matched information (e.g., release quantity). There are only a few data elements that are common to most databases and could potentially link databases by matching release records. These data elements include release date, facility name, and release state, city, and NRC number. The advantages and disadvantages of using these data elements are considered below.

Release date, facility name, release city, release state. Release date can be used with facility or other release-specific information to match release records from one database with release records from another database. However, these common elements-- release date, facility name, release city, release state-- are not without foreseeable problems. **Exhibit 7** lists the different formats of these data elements and indicates the need to standardize these formats for field type (e.g., text, numbers, date) and field width. Most databases contain release date in a consistent format (month/day&year), but some reports have an uncertain date. The facility name is subject to misspelling, varied versions, or confusion with the name of the parent company. The release city can be subject to misspellings and misinterpretation. The release state is the most consistently accurate, as all databases use the two letter abbreviation. Several format

widths were changed in the ARIP database to be consistent with the format widths for most of the other databases. These changes in the ARIP database are already reflected in Exhibit 7.

EXHIBIT 7 COMPUTER FORMATS FOR KEY COMMON DATA ELEMENTS

Agency	Data-base	Common Data Elements									
		Release Date		Facility Name		Release City		Release State		NRC Number	
		Type	Width	Type	Width	Type	Width	Type	Width	Type	Width
NRC	IRIS	date	1 0	text	30	text	20	text	2	num	6
EPA	ERNS	date	1 0	text	30	text	2 0	text	2	num	6
EPA	ARIP	date	1 0	text	30	text	25	text	2	num	6
DOT	HMIRS	date	10	text	30	text	25	text	2	num	6
DOT	HLPAD	date	10	text	50	text	25	text	2	num	6
OSHA	IMIS	text	>200	text	-	num	4	text	2	-	-

The following databases provide additional blank spaces over and above the six digits currently needed to accommodate the NRC number: IRIS (1 additional space), ERNS and HMIRS and HLPAD (6 additional spaces).

National Response Center Identification Number. Another suggestion is to use a single identification number that can refer to one release or notification in all of the federal accident databases. Because five of the seven databases (i.e., IRIS, ERNS, ARIP, HMIRS, and HLPAD) featured in this guide originate with the National Response Center's (NRC) database (IRIS), perhaps an NRC identification number can eventually be assigned to the databases to link them. When the NRC receives a call concerning a release, the call is given a six digit NRC number. This number is already associated with ERNS, HMIRS, ARIP, and HLPAD.

However, several problems accompany this approach. First, the NRC identification numbers pertain to notification reports to the NRC, not to actual releases. Also, multiple notifications about a single release create several different NRC numbers. According to the NRC, around 20 percent of NRC records are estimated to be duplicates of individual releases. This duplication creates a problem if matching the databases are based on a release. Also, for such a matching system to work, federal agencies would have to take responsibility for including the NRC identification number in their databases, HMIRS and HLPAD database managers do not include the NRC number in their databases, but they could retrieve it. However, only a small number of incidents in HMIRS and HLPAD require reporting to the NRC and have NRC numbers.

Efforts to Support Database Linkage

In addition to efforts by individual federal agencies to place databases (e.g., ERNS, ARIP) on electronic bulletin boards, the NRT has outlined and is considering a pilot project to link databases to determine the utility of database linkage.

The NRT is considering a pilot project to produce a publication of summary statistics on accidents in the United States. The publication would be based on a synthesis of a year's worth of data (e.g., 1994)

from all of the databases featured in this user's guide. The intention is to develop a "snap shot" of the release data for a national picture. The effort would include merging fifteen or fewer common data elements (listed on page 59) into a single combined database so that aggregate analysis could be performed. The procedures to link the data would also be documented. The entire effort to produce a "temporary working database" might demand significant resources to conduct and document the linkage of databases and therefore, might only be performed once. Because many of the databases are huge, the NRT may consider a scaled-down effort by perhaps limiting the number of merged release records to a subset - those that meet a release quantity threshold (e.g., **≥ 100 gallons**), **impact trigger** (e.g., **causes death, injury, environmental damage**), or some other screening criterion. Much of the resources for a second version and a follow-up publication on the accident picture would be borne in the first year because the procedure to link the databases and the database structure would have already been established and the initial problems would have been resolved.

In an additional optional effort, the NRT could compare the temporary working database to accidental release data from up to three select states. This data would be compared for accuracy and completeness against the nationally collected data. The merging of state data with the accidental release data collected nationally could add depth to the accident picture for the state(s) involved. Additional publications could feature comprehensive summary statistics on selected states or comparison of state accidental release pictures.

The NRT would assess the costs of and response to the publication on the accidental release picture to determine if annual updates of the publication or release of the raw data are warranted. The publications that feature statistics on national and state-enhanced data could be available through some agreed upon mechanism (e.g., NTIS, electronic bulletin boards).

Further study of the benefits, the technical complications, and the resource requirements of this pilot project is necessary before the NRT can proceed.

User's Guide Appendices

Appendix A: Examples of Completed Accident Report Forms for Federal Release Databases

Appendix B: Datafield Dictionaries of Federal Release Databases

Appendix A
Examples of Completed Accident Report Forms for Federal Release Databases

IRIS Accident Report Form

INFORMATION SHOWN ON THIS FORM IS SUBJECT TO MINOR CHANGES.
OFFICIAL NRC REPORTS ARE SENT TO VNTSC ON A DAILY BASIS.

From: National Response Center
USCG HQ Washington, D. C.
1-800-924-8802

To: PO LEWIS
MS0 HONOLULU
Incident Report # 292403

INCIDENT DESCRIPTION

*Report taken by MST3 BRIGHT at 05:47 on 22-MAY-95
Incident Type: MARINE
Incident Cause: UNKNOWN
Affected Area: PEARL HARBOR
The incident was discovered on 21-MAY-95 at 21:45 local time,
Affected Medium: WATER

REPORTING PARTY

Name:
Job Title:
Organization:
Address:
>

called for the responsible party.

Day Phone:
Type of Organization:

SUSPECTED RESPONSIBLE PARTY

Name:
Job Title:
Organization:
Address:
>

Day Phone:
Type of Organization:

INCIDENT LOCATION

BERTH A6
PEARL HARBOR, HI 96673-4036

County: OAHU

RELEASED MATERIAL(S)

CHRIS Code: OLB OIL, MISC: LUBRICATING
Qty Released: 50 GAL(S) Qty in Water: 50 GAL(S)

SOURCE/CAUSE OF INCIDENT

USS NAVAJO/WASTE LUBE OIL TANK OVERFLOW

DAMAGE

Injuries: Fatalities: Evacuations: Damages: Air Close: Road Close:
N N

REMEDIAL ACTIONS

BOOMS DEPLOYED

NOTIFICATIONS BY CALLER

EPA: STATE: CG: Y OTHER: DESC: HONMS

INFORMATION SHOWN ON THIS FORM IS SUBJECT TO MINOR CHANGES.
OFFICIAL NRC REPORTS ARE SENT TO VNTSC ON A DAILY BASIS.

From: National Response Center
USCG HQ Washington, D. C.
1-800-424-8802

To: PO LEWIS
MS0 HONOLULU
Incident Report # 292403

INCIDENT DESCRIPTION

*Report taken by MST3 BRIGHT at 05:47 on 22-MAY-95

MS0 HONOLULU
22-MAY-95 05:54

NOTIFICATIONS BY NRC
PO LEWIS

ADDITIONAL INFORMATION

SHEEN SIZE: 230' X 10'

***** END OF REPORT # 292403 *****

ERNS Accident Report Form

ERNS INCIDENT NOTIFICATION REPORT

Regional Case Number: _____

Reported (mm/dd/yy): _____		Time (H/MM): _____		Multiple Report: <input type="checkbox"/>		Regional Time (H/MM): _____	
Recorded By: _____				Multiple Regional Case Number: _____			
Through NRC: <input type="checkbox"/>		NRC Case Number: _____		SSI Report: <input type="checkbox"/>		CR Number: _____	
A. REPORTER <small>*Privacy Act</small>		Confidentiality Requested: <input type="checkbox"/>		*Reported By: _____			
Organization Name: _____							
Organization: (Check One) <input type="checkbox"/> Discharger <input type="checkbox"/> Public <input type="checkbox"/> State <input type="checkbox"/> Local <input type="checkbox"/> Federal <input type="checkbox"/> Unknown							
*Address: _____						*Phone: () ext.: _____	
City: _____		County: _____		State: _____		Zip: _____	
B. DISCHARGER		Same As A <input type="checkbox"/>		Organization: (Check One) <input type="checkbox"/> Private Co. <input type="checkbox"/> Public <input type="checkbox"/> State <input type="checkbox"/> Local <input type="checkbox"/> Federal <input type="checkbox"/> Unknown			
Discharger Name: _____						Phone: () ext.: _____	
Contact Name: _____						2nd Phone: () ext.: _____	
Address: _____						Facility ID Number: _____	
City: _____		County: _____		State: _____		Zip: _____	
C. INCIDENT LOCATION		Same As A <input type="checkbox"/>		Street or Approx. Location: _____			
		Same As B <input type="checkbox"/>					
City: _____		County: _____		State: _____		Zip: _____ Milepost: _____	
D. DATE		Discovery Date (mm/dd/yy): _____		Spill Date (mm/dd/yy): _____		Spill Time (H/MM): _____	
E. MATERIAL		Material Type: (Check One) <input type="checkbox"/> Unknown <input type="checkbox"/> Oil <input type="checkbox"/> Haz Sub <input type="checkbox"/> Other					
Material Name		CHRIS	CAS No.	UN DOT No.	Quantity	Units (Circle One)	Quantity In Water
1. _____						lb bbl drn unk gal ton oth	
2. _____						lb bbl drn unk gal ton oth	
3. _____						lb bbl drn unk gal ton oth	
F. SOURCE		Source of Spill: (Check Any) <input type="checkbox"/> Highway <input type="checkbox"/> Railway <input type="checkbox"/> Pipeline <input type="checkbox"/> UST <input type="checkbox"/> Fixed Facility <input type="checkbox"/> Other <input type="checkbox"/> Air Transport <input type="checkbox"/> Vessel <input type="checkbox"/> Offshore <input type="checkbox"/> AST <input type="checkbox"/> Unknown					
Vehicle ID or Carrier No.: _____		Number of Tanks: _____		Tank Capacity: _____		Tank Units: (Circle One) <input type="checkbox"/> lb <input type="checkbox"/> bbl <input type="checkbox"/> drn <input type="checkbox"/> unk gal ton oth	
Source Description: _____							
G. MEDIUM		Medium Affected: (Check Any) <input type="checkbox"/> None <input type="checkbox"/> Land <input type="checkbox"/> Groundwater <input type="checkbox"/> Other <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> Within Facility <input type="checkbox"/> Unknown					
Waterway Affected: _____							
H. CAUSE		Reported Cause: (Check Any) <input type="checkbox"/> Transportation Accident <input type="checkbox"/> Operational Error <input type="checkbox"/> Dumping <input type="checkbox"/> Other <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Natural Phenomenon <input type="checkbox"/> Unknown					
Cause Description: _____							
I. DAMAGE		No. of Injuries: _____ <input type="checkbox"/> None		No. of Deaths: _____ <input type="checkbox"/> None		Property Damage >\$50,000: <input type="checkbox"/>	
J. ACTIONS		Evacuation: <input type="checkbox"/> Response Actions Taken: _____					
K. NOTIFIED		Caller Has Notified: (Check Any) <input type="checkbox"/> State/Local <input type="checkbox"/> Discharger <input type="checkbox"/> USCG <input type="checkbox"/> Other <input type="checkbox"/> Unknown					
Agency Name: _____							
L. COMMENTS		Comments: _____					
						Additional Information (See Reverse Side) <input type="checkbox"/>	
M. RESPONSE AND EVALUATION		Response Comments: _____					
Agency Name: _____		(Check One) <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Discharger <input type="checkbox"/> Federal <input type="checkbox"/> EPA <input type="checkbox"/> Other <input type="checkbox"/> Unknown					
Agency Name: _____		(Check One) <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Discharger <input type="checkbox"/> Federal <input type="checkbox"/> EPA <input type="checkbox"/> Other <input type="checkbox"/> Unknown					
Agency Name: _____		(Check One) <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Discharger <input type="checkbox"/> Federal <input type="checkbox"/> EPA <input type="checkbox"/> Other <input type="checkbox"/> Unknown					

Regional Case Number:

Form Version 08/91

ARIP Accident Report Form

**U.S. ENVIRONMENTAL PROTECTION AGENCY
ACCIDENTAL RELEASE INFORMATION PROGRAM**

**VERIFICATION AND INFORMATION SUPPLEMENT
INSTRUCTIONS**

GENERAL INSTRUCTIONS

The Accidental Release Information Program (ARIP) is administered by the U.S. Environmental Protection Agency (EPA). The purpose of this program is to learn more about the causes and consequences of accidental releases of hazardous substances from fixed facilities and the actions that have been or could have been effective in preventing them from occurring. The collected information will serve to support a range of chemical accident prevention and preparedness efforts involving industry, local and state government, and EPA regions and headquarters.

Please read the instructions before you verify the information or answer the questions. If you need further assistance, please contact the person identified in the cover letter.

ORGANIZATION

There are two parts to this survey. Both parts must be completed and all questions must be answered.

PART A. Emergency Response Notification System - Verification

The Emergency Response Notification System (ERNS) is a national computer database and retrieval system that is used to store information on releases of oil and hazardous substances. ERNS provides a mechanism for documenting and verifying incident notification information as initially reported to the National Response Center (NRC), EPA, and/or the U.S. Coast Guard. This part of the survey includes an ERNS printout of available information pertaining your particular release event. It is important that you verify this information, make corrections as needed, and provide any missing information.

Please note the identification numbers for your reported event at the top of this section. These numbers are the ERNS database number and/or the NRC report number. Make sure that you **IDENTIFY ALL PAGES WITH AT LEAST ONE OF THESE NUMBERS.**

PART B. Accidental Release Prevention - Supplemental Information

This part of the survey questionnaire requests information to supplement reports you may have submitted to the National Response Center (NRC) and other federal, state, or local authorities. The questionnaire is divided into three sections:

Section I - Facility Profile

This section asks several questions about your facility, e.g., location, product, and current status of operations.

Section II - Hazardous Substance Release Profile

This section asks several key questions concerning the reported release. It is important that you respond as accurately as you can based on the

information available to you. If more space or comments to clarify your response are needed, please use additional pages.

Section III - Prevention Profile

This section asks you to provide an assessment of prevention plans and technologies at your facility and any changes that will be initiated because of the release incident. Additional space for alternate answers and/or details is provided. Please attach additional pages if necessary.

AGENCY DISCLOSURE OF ESTIMATED BURDEN

Public reporting burden for this collection of information is estimated to average 24.5 hours, including time for reviewing instructions, searching existing data sources, gathering and maintaining data needed, and completing and reviewing the collection of information. Send comments regarding the estimated burden or any other aspect of this collection of information, including suggestions for reducing the burden, to Director, Regulatory Information Division, Mail Code 2136, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to Paperwork Reduction Project (OMB # 2050-0065), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

DEFINITIONS

Please refer to the definitions below to clarify the precise meaning and use of the terms in the questionnaire.

By-pass: A piping system designed to provide an alternate pathway for gas or liquid streams that detours around a normal pathway. A by-pass condition refers to a system's operation using available bypass systems. Certain instrument control alarms and interlocks may also be "by-passed" during abnormal operating conditions.

Cause-Consequence Analysis¹: A diagram display of the interrelationships between accident outcomes and their basic causes. This analysis is a blend of the Fault Tree and Event Tree analysis.

Containment System: Dikes, curbs, vaults, ponds, and the like that serve to collect and temporarily hold spilled materials until such time as they are removed, disposed of, or transferred to a secure storage vessel.

Dow and Mond Indices¹: A method for relative ranking of the risks at a chemical process plant. This method assigns penalties to process materials and conditions that can contribute to an accident. Credits are assigned to plant safety procedures that can mitigate the effects of an accident.

Equipment (Mechanical) Failure: Failure of process or storage vessels, valves, piping, pumps or other equipment connecting vessels in a process that allows a loss of containment.

Event Tree Analysis¹: Considers operator response or safety system response to an initiating event in determining accident outcome. This analysis results in accident sequences.

Facility Boundary: Fence line or property line marking the perimeter of a facility.

Failure Modes/Effects Analysis¹: A method for tabulating the system/plant equipment and their respective failure modes (description of how the equipment or system fails). The tabulation includes the effects of each failure mode on the system/plant and a critical ranking of them.

Fault Tree Analysis¹: A deductive technique that focuses on determining the causes of one particular accident event. The causes are determined using the fault tree - a graphic model that displays the various combinations of equipment faults and failures that can result in an accident event.

Federal Authority: Any federal government official delegated the responsibility under the Superfund statute for activities related to hazardous substance releases (e.g., National Response Center, U.S. Environmental Protection Agency and its regional offices).

General Public: Persons not present within the facility boundaries at the time the release occurred and/or with no business association to the facility owner (e.g., residents near the facility).

Hazard Assessment¹: Formal procedures employed to identify potential risks that could lead to an accidental release (e.g., Fault Tree analysis).

Hazard and Operability Studies (HAZOP)¹: Formal team brainstorming to systematically identify hazards and operability problems throughout an entire facility. Certain guide-words such as "no flow" and "no cooling" are used. The consequences of credible deviations associated with the guide-words are identified and assessed.

Hazardous Substance: Any element, compound, mixture, solution, or substance designated under section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or section 3001 of the Solid Waste Disposal Act.

Human Error Analysis' (also know as Human Factors Analysis): A systematic evaluation of the factors that influence the performance, procedures, and techniques of human operators, maintenance staff, and other personnel. It will identify errors and likely situations that can cause an accident.

Immediate Response¹: Application of equipment, systems, and procedures to capture, neutralize, or destroy a hazardous substance before it is released to the environment (e.g., scrubber).

Local Authority: Any local government official responsible for remedial or related activities connected with a hazardous substance release (e.g., Local Emergency Response Committee (LEPC), fire department).

Loss of Containment: Accidental release of hazardous substances from a process or storage vessel, interconnecting equipment, and/or control equipment to the environment.

Migration: The movement of a substance from one place to another in air, water, soil, or other media.

Operator Error: A mistake (e.g., leaving a valve open, failure to respond to process alarms, failure to maintain process variables or conditions at set point) made during operation of a process by the operator resulting in a release or loss of containment.

Owner: The legally designated individual, partnership, or parties that own the facility.

POTW: Publicly Owned Treatment Works.

Probabilistic Risk Assessment¹: The overall measure of risk determined through numerical evaluation of both accidental consequences and probabilities. This method is used to assess comparative risk where alternative designs exist.

Process Control and Monitoring¹: Control and detection equipments that provide information on the process status, standard operating conditions or parameters, and possible or imminent releases (e.g., pressure sensors, temperature sensors, chemical detectors on process lines).

Process Design': Design of process equipment and systems to limit the potential for accidental releases (e.g., redundant systems).

Process Vessel: A tank, reactor, vat, or other piece of equipment in which substances are blended to form a mixture or are reacted to convert them to some other product or form.

Release: Any unintentional or accidental spilling, leaking, flowing, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a hazardous substance into the environment from a storage or process vessel.

Responding Official: Person responsible for the final review of the information provided in the survey questionnaire for completeness and accuracy (e.g., facility safety officer, environmental engineer, plant manager).

Response¹: Application of equipment, systems, and procedures to capture, neutralize, or destroy a hazardous substance after it is released to the environment (e.g., cleanup).

Standard Industrial Classification: The federal government categories of business activity. See Standard Industrial Classification Manual, Office of Management and Budget, U.S. Government Printing Office, Washington, D.C.

State Authority: Any state government official responsible for remedial or related activities connected with a hazardous substance release (e.g., State Emergency Response Commission (SERC), state transportation office).

Storage Vessel: Any container (e.g., tank, drum, bottle, tank car, cylinder) used to hold a raw or input material, a product, or a by-product at ambient conditions or at an elevated or reduced temperature or pressure.

Upset: Process deviation from standard conditions because of a malfunction or failure of process controls, alarms, or backup systems. These conditions could result from operator error, mechanical or equipment failure, or from unexpected events such as fire, explosion, power loss, or water loss.

What If Analysis¹: Considers consequences associated with events that occur as a result of failures involving equipment, design, or procedures. All possible system failures are collected in a list and evaluated (e.g.,-"what if the feed pump fails"). This method requires a basic understanding of what is intended and the ability to combine possible deviations and to reject incredible situations.

1. Definition derived from Guidelines for Hazard Evaluation Procedures, AIChE, 1985, and from the Review of Emergency Systems, EPA, June, 1988.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
ACCIDENTAL RELEASE INFORMATION PROGRAM**

PART A. EMERGENCY RESPONSE NOTIFICATION SYSTEM - VERIFICATION

Information regarding an accidental release incident in your facility has been recorded in the Emergency Response Notification System (ERNS). Below is the information available in ERNS regarding this release. Please verify the information by making any corrections and/or by providing any missing information in the spaces provided (attach additional pages as necessary).

1. Facility: _____

Dun & Bradstreet Number _____ - _____
Street _____
City _____
County _____
State _____ Zip _____
Telephone () _____

2. Spill Location: (Check here if same as Facility Address)

Street _____
City _____
County _____
State _____ Zip _____
Telephone () _____
Latitude (Deg/Min) _____ / _____ Longitude _____ / _____

3. Primary Chemical Released: _____

4. ERNS Reporting Date/Time: _____ / _____
(mm/dd/yy) (24-hr clock)

5. Reported through NRC? Yes _____ No _____

ERNS/REGIONAL CASE # _____ / NRC # _____

6. Federal, State, and Local Authorities Notified:

(e.g., NRC, EPA Regional Office, SERC, DNR, LEPC, Police, and others.
Show dates as mm/dd/yy; times in 24 hour clock.)

<u>Agency</u>	<u>Date</u>	<u>Time</u>	<u>Person Contacted</u>

7. Responding Agencies:

8. Response Action(s):

ERNS/REGIONAL CASE # _____ / NRC # _____

PART B. ACCIDENTAL RELEASE PREVENTION - SUPPLEMENTAL INFORMATION

SECTION I. FACILITY PROFILE

1. Plant Manager/Facility Owner: _____
2. Responding Official: _____
Title: _____
Address : _____

Telephone: () _____
Signature: _____ Date: _____
3. Please provide the four-digit Standard Industrial Classification (SIC) codes that best describe your facility operations:
SIC code(s): _____
(Primary)
Primary product or service: _____

4. Indicate the total number of employees typically at the facility (include all full-time and part time employees, all employees on sick leave, paid holidays, paid vacations, managers and corporate officers at the facility, and contractors):
Number of Employees: _____

SECTION II. HAZARDOUS SUBSTANCE RELEASE PROFILE

For the following section, if exact responses cannot be provided please provide estimates using your best professional judgment.

5. Date/Time Release Began: _____
(month/day/year)' (24-hr clock)

Ended: _____
(month/day/year)' (24-hr clock)

6. In the table below, provide release estimates for the primary chemical released (in lbs, only) to each media. Quantities released to each media should add up to the total quantity released. For solutions, adjust the quantity of the chemical released for chemical concentration (e.g., report 1,000 lbs of 50% sulfuric acid released as 500 lbs sulfuric acid). For multiple chemicals attach additional pages as necessary.

Chemical Name: _____

CAS Number: _____

Concentration (wt%): _____

Physical State at time of release: _____

Released To:	<u>Quantity (lbs):</u>
Air	_____
Surface Water	_____
Land	_____
Treatment Facility	_____

Total Quantity Released: _____

7. Check the item below that best describes **when** the release occurred:

- a. _____ During routine operation
- b. _____ During routine startup
- c. _____ While in process of shutting down operations
- d. _____ While unit was shutdown for maintenance/product changeover, etc.
- e. _____ During special test, or non-standard, trial run conditions
- f. _____ During startup of new construction, new equipment
- g. _____ Other (please describe):

8. Check the item below that best describes the status of the facility, unit, or process line as a result of the release:

- a. _____ No interruption; continued operations
- b. _____ Restarted after release
- c. _____ Shut down for repairs; with plans to restart
- d. _____ Permanently closed
- e. _____ Other (please describe):

9. Check the one item below that best describes the location of the loss of containment in the specified area:

- a. **Process Vessel:** wall, overflow, vent, drain
- b. **Storage vessel:** wall, overflow, vent, drain
- c. **Valve:** flange, seal, body
- d. **Piping:** flange, joint, elbow, wall
- e. **Pump:** flange, seal, body
- f. Other process equipment (please describe):

10. How was the release first discovered? (check as many as apply)

- a. _____ Process control device indication
- b. _____ Chemical specific detector, alarm
- c. _____ Observation by employee(s)
- d. _____ Explosion/fire
- e. _____ Third party notification
- f. _____ Other (please describe):

11. Check one item below that best describes what initiated the release:

- a. _____ Equipment failure
- b. _____ Operator error

12. Indicate other factors that contributed to the equipment failure or operator error (check as many as apply and elaborate below):

- a. ☐ "Upset" condition
- b. ☐ "By-pass" condition
- c. ☐ Maintenance activity
- d. ☐ Training deficiencies
- e. ☐ Inappropriate operating procedures
- f. ☐ Faulty process design
- g. ☐ Unsuitable equipment
- h. ☐ Unusual weather Conditions
- i. ☐ Other (please describe):

13. Provide a brief chronological description of the events that led up to and contributed to the release event (if helpful, include a sketch). Briefly discuss the results of your investigation. Use additional pages as necessary.

14. Check all items that describe the end effects of the release event:

- a. ☐ Spill
- b. ☐ Vapor release
- c. ☐ Explosion
- d. ☐ Fire
- e. ☐ Other (describe):

15. Was the general public notified? Yes _____ No _____

If yes, indicate the type of communication technologies used to alert and notify the public to evacuate or take other safety measures. Check as many items as apply:

- a. _____ Door-to-door notification
- b. _____ Loudspeakers/public access system
- c. _____ Tone alert radio/pagers
- d. _____ Siren/alarms
- e. _____ Modulated power lines
- f. _____ Aircraft
- g. _____ Radio
- h. _____ Television
- i. _____ Cable override
- j. _____ Telephone
- k. _____ Other (please describe):

16. Indicate the number of persons injured, hospitalized (as opposed to treated and released) and fatalities that occurred as a result of the release (indicate with NA if not known):

	<u>Injuries</u>	<u>Hospitalized</u>	<u>Fatalities</u>
Facility employees	_____	_____	_____
Contractors	_____	_____	_____
General public	_____	_____	_____
Responders	_____	_____	_____

17. Indicate the number of persons evacuated and/or sheltered-in-place as a result of the release (indicate with NA if not known):

	<u>Evacuated</u>	<u>Sheltered in Place</u>
Facility employees	_____	_____
Contractors	_____	_____
General public	_____	_____

18. Describe the immediate response activities taken to mitigate the release (capture, neutralize or destroy a toxic chemical before it is released into the environment). Check as many as apply.

- a. ☐ Reduce system pressure/temperature
- b. ☐ Apply spray scrubber/curtain
- c. ☐ Transfer contents from failed equipment
- d. ☐ Dilute and/or neutralize
- e. ☐ Containment
- f. ☐ Plant/process shutdown
- g. ☐ Divert release to treatment
- h. ☐ Vacuum/release recovery
- i. ☐ Incineration/flares
- j. ☐ None
- k. ☐ Other (describe):

19. Indicate the environmental effects that occurred as a result of the release:

- a. ☐ Fish Kills
- b. ☐ Vegetation damage
- c. ☐ Soil contamination
- d. ☐ Groundwater contamination
- e. ☐ Wildlife kills
- f. ☐ None
- g. ☐ Other (please describe):

20. Estimate the financial impact of the accidental release for the facility (e.g., cleanup cost, outside contractors cost, hours/wages diverted to cleanup or lost to shutdown, loss of production) and for the general public (e.g., damage to natural resources, public and private properties). An aggregate figure may be provided if a breakdown is not available.

- a. Facility Costs: \$ _____
- b. General Public Costs: \$ _____

Total Costs: \$ _____

SECTION III. PREVENTION PROFILE

21a. What formalized hazard evaluation was performed prior to this release at the process or storage area within your facility where the accident occurred? When was it last conducted? How frequently is this evaluation conducted (e.g. every 2 years)? Indicate frequency in years and date last conducted as mm/dd/yy.

	<u>Frequency</u>	<u>Last Conducted</u>
a. Cause-Consequence analyses	_____	_____
b. Dow and Mond Hazard Indices	_____	_____
c. Event Tree analyses	_____	_____
d. Failure Modes/Effects analyses	_____	_____
e. Fault Tree analyses	_____	_____
f. HAZOP Studies	_____	_____
g. Human Error analyses	_____	_____
h. Probabilistic Risk Assessments	_____	_____
i. What If analyses	_____	_____
j. No evaluation ever done for this area	_____	_____
k. Other evaluation (describe, indicate frequency, date done):		

21b. Was the hazard evaluation performed effective in predicting this release event? Why or why not?

22a. Identify the training, procedures, and/or management practices used at this facility prior to this release to prevent accidental releases. Check all that apply.

- a. Preventive Maintenance/Inspections
- b. Accident Investigations
- c. Audits
- d. Inventory/capacity reductions
- e. Employee safety training
- f. Standard operating procedures
- g. Emergency response training
- h. None
- i. Other (please describe):

22b. Describe any changes to existing training, procedures and management practices, or what new types of training, procedures and management practices are or will be implemented as a result of this release?

23a. What engineering systems or controls were in use prior to the release at the process or storage area within your facility where the accident occurred? Check all that apply.

- a. Backup/Redundant systems
- b. Automatic Shut-offs
- c. Bypass/Surge systems
- d. Manual Overrides
- e. Controls for operations monitoring and warning
- f. Interlocks
- g. None
- h. Other (please describe):

ERNS/REGIONAL CASE # _____ / NRC # _____

23b. Describe any changes to the existing engineering systems or controls, and any new types of engineering systems/controls that are or will be implemented as a result of this release:

HMIRS Accident Report Form

**DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS INCIDENT REPORT**

Form Approved OMB No. 2137-0039

INSTRUCTIONS: Submit this report in duplicate to the Information Systems Manager, Office of Hazardous Materials Transportation, DHM-63, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C. 20590. If space provided for any item is inadequate, complete that item under Section IX, keying to the entry number being completed. Copies of this form, in limited quantities, may be obtained from the Information Systems Manager, Office of Hazardous Materials Transportation. Additional copies in this prescribed format may be reproduced and used, if on the same size and kind of paper.

I. MODE, DATE, AND LOCATION OF INCIDENT

1. MODE OF TRANSPORTATION: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> HIGHWAY <input type="checkbox"/> RAIL <input type="checkbox"/> WATER <input type="checkbox"/> OTHER	
2. DATE AND TIME OF INCIDENT (Use Military Time, e.g. 8:30am = 0830. noon = 1200. 6pm = 1800. midnight = 2400).	Date: <u>3</u> / <u>7</u> / 1995 TIME: <u>1100 a.m.</u>
3. LOCATION OF INCIDENT (Include airport name in ROUTE/STREET if incident occurs at an airport.) CITY: <u>Belvoir</u> STATE: <u>Virginia</u> COUNTY: <u>Fairfax</u> ROUTE/STREET: <u>US Route 1</u>	

II. DESCRIPTION OF CARRIER, COMPANY, OR INDIVIDUAL REPORTING

4. FULL NAME ABC Trucking Company	5. ADDRESS (Principal place of business) 1492 Columbus Avenue Richmond, VA 23021
6. LIST YOUR OMC MOTOR CARRIER CENSUS NUMBER, REPORTING RAILROAD ALPHABETIC CODE, MERCHANT VESSEL NAME AND ID NUMBER OR OTHER REPORTING CODE OR NUMBER. MC 654321	

III. SHIPMENT INFORMATION (From Shipping Paper or Packaging)

7. SHIPPER NAME AND ADDRESS (Principal place of business) Scientific Division - American Hotel Supply 1101 South Peachtree Street Atlanta, GA 30303	8. CONSIGNEE NAME AND ADDRESS (Principal place of business) J & J Chemicals 9801 Sluice Parkway Newark, NJ 07101
9. ORIGIN ADDRESS (If different from Shipper address) N/A	10. DESTINATION ADDRESS (If different from Consignee address) 1506 Wayne Street Alexandria, VA 22301

11. SHIPPING PAPER/WAYBILL IDENTIFICATION NO. Carrier's PRO 98765

IV. HAZARDOUS MATERIAL(S) SPILLED (NOTE: REFERENCE 49 CFR SECTION 172.101.)

12. PROPER SHIPPING NAME Acetone	13. CHEMICAL/TRADE NAME N/A	14. HAZARD CLASS Flammable Liquid	15. IDENTIFICATION NUMBER (e.g. UN 2764, NA 2020) UN 1090
16. IS MATERIAL A HAZARDOUS SUBSTANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		17. WAS THE RM MET? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

V. CONSEQUENCES OF INCIDENT, DUE TO THE HAZARDOUS MATERIAL.

18. ESTIMATED QUANTITY HAZARDOUS MATERIAL RELEASED (Include units of measurement) 45 Gallons	19. FATALITIES None	20. HOSPITALIZED INJURIES None	21. NON-HOSPITALIZED INJURIES 1
22. NUMBER OF PEOPLE EVACUATED None			

23. ESTIMATED DOLLAR AMOUNT OF LOSS AND/OR PROPERTY DAMAGE, INCLUDING COST OF DECONTAMINATION OR CLEANUP (Round off in dollars)

A. PRODUCT LOSS \$90.00	B. CARRIER DAMAGE N/A	C. PUBLIC/PRIVATE PROPERTY DAMAGE N/A	D. DECONTAMINATION/ CLEANUP \$100.00	E. OTHER N/A
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24. CONSEQUENCES ASSOCIATED WITH THE INCIDENT: ☐ VAPOR (GAS) DISPERSION ☐ MATERIAL ENTERED WATERWAY/SEWER
☒ SPILLAGE ☐ FIRE ☐ EXPLOSION ☐ ENVIRONMENTAL DAMAGE ☐ NONE ☐ OTHER: _____

VI. TRANSPORT ENVIRONMENT

25. INDICATE TYPE(S) OF VEHICLE(S) INVOLVED: <input type="checkbox"/> CARGO TANK <input checked="" type="checkbox"/> VAN TRUCK/TRAILER <input type="checkbox"/> FLAT BED TRUCK/TRAILER <input type="checkbox"/> TANK CAR <input type="checkbox"/> RAIL CAR <input type="checkbox"/> TOFC/COFC <input type="checkbox"/> AIRCRAFT <input type="checkbox"/> BARGE <input type="checkbox"/> SHIP <input type="checkbox"/> OTHER: _____	
26. TRANSPORTATION PHASE DURING WHICH INCIDENT OCCURRED OR WAS DISCOVERED: <input checked="" type="checkbox"/> EN ROUTE BETWEEN ORIGIN/DESTINATION <input type="checkbox"/> LOADING <input type="checkbox"/> UNLOADING <input type="checkbox"/> TEMPORARY STORAGE/TERMINAL	
27. LAND USE AT INCIDENT SITE: <input type="checkbox"/> INDUSTRIAL <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> RESIDENTIAL <input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> UNDEVELOPED	
28. COMMUNITY TYPE AT SITE: <input type="checkbox"/> URBAN <input checked="" type="checkbox"/> SUBURBAN <input type="checkbox"/> RURAL	
29. WAS THE SPILL THE RESULT OF A VEHICLE ACCIDENT/DERAILMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES AND APPLICABLE, ANSWER PARTS A THRU C	

A. ESTIMATED SPEED: 25 mph	B. HIGHWAY TYPE: <input checked="" type="checkbox"/> DIVIDED/LIMITED ACCESS <input type="checkbox"/> UNDIVIDED	C. TOTAL NUMBER OF LANES <input type="checkbox"/> ONE <input type="checkbox"/> THREE <input checked="" type="checkbox"/> TWO <input type="checkbox"/> FOUR OR MORE	SPACE FOR DOT USE ONLY
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VII. PACKAGING INFORMATION: If the package is overpacked (consists of several packages, e.g. glass jars within a fiberboard box), begin with Column A for information on the innermost package.

ITEM	A (Inner)	B (Outer)	C
30. TYPE OF PACKAGING, INCLUDING INNER RECEPTACLES (e.g. Steel drum, tank car)	Plastic Liner	Steel Drum	
31. CAPACITY OR WEIGHT PER UNIT PACKAGE (e.g. 55 gallons, 65 lbs.)	55 Gallons	55 Gallons	
32. NUMBER OF PACKAGES OF SAME TYPE WHICH FAILED IN IDENTICAL MANNER	1	1	
33. NUMBER OF PACKAGES OF SAME TYPE IN SHIPMENT	12	12	
34. PACKAGE SPECIFICATION IDENTIFICATION (e.g. DOT 17E, DOT 105A100, UN 1A1 or none)	DOT 2SL	DOT 17H	
35. ANY OTHER PACKAGING MARKINGS (e.g. STC, 18/16-55-88, Y1.4/150/87)	55-12-93	STC 18/16-55-92	
36. NAME AND ADDRESS, SYMBOL OR REGISTRATION NUMBER OF PACKAGING MANUFACTURER	AAA - Toledo, OH	FUBAR - Flint, MI	
37. SERIAL NUMBER OF CYLINDERS, PORTABLE TANKS, CARGO TANKS, TANK CARS	N/A	N/A	
38. TYPE OF LABELING OR PLACARDING APPLIED	None	Flammable Liquid	
39. IF RECONDITIONED OR REQUALIFIED	A. REGISTRATION NUMBER OR SYMBOL	N/A	DOT 51000
	B. DATE OF LAST TEST OR INSPECTION	N/A	2/94
40. EXEMPTION/APPROVAL/COMPETENT AUTHORITY NUMBER, IF APPLICABLE (e.g. DOT E1012)	N/A	N/A	

VIII. DESCRIPTION OF PACKAGING FAILURE: Check all applicable boxes for the package(s) identified above.

41. ACTION CONTRIBUTING TO PACKAGING FAILURE <table border="0"> <tr> <td>A</td> <td>B</td> <td>C</td> <td></td> </tr> <tr> <td>a. <input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>TRANSPORT VEHICLE COLLISION</td> </tr> <tr> <td>b. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>TRANSPORT VEHICLE OVERTURN</td> </tr> <tr> <td>c. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>OVERLOADING/OVERFILLING</td> </tr> <tr> <td>d. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>LOOSE FITTINGS, VALVES</td> </tr> <tr> <td>e. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>DEFECTIVE FITTINGS, VALVES</td> </tr> <tr> <td>f. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>DROPPED</td> </tr> <tr> <td>g. <input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>STRUCK/RAMMED</td> </tr> <tr> <td>h. <input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>IMPROPER LOADING</td> </tr> <tr> <td>i. <input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>IMPROPER BLOCKING</td> </tr> </table>			A	B	C		a. <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	TRANSPORT VEHICLE COLLISION	b. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TRANSPORT VEHICLE OVERTURN	c. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OVERLOADING/OVERFILLING	d. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LOOSE FITTINGS, VALVES	e. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DEFECTIVE FITTINGS, VALVES	f. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DROPPED	g. <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	STRUCK/RAMMED	h. <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMPROPER LOADING	i. <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMPROPER BLOCKING	42. OBJECT CAUSING FAILURE <table border="0"> <tr> <td>A</td> <td>B</td> <td>C</td> <td></td> </tr> <tr> <td>a. <input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>OTHER FREIGHT</td> </tr> <tr> <td>b. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>FORKLIFT</td> </tr> <tr> <td>c. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>NAIL/PROTRUSION</td> </tr> <tr> <td>d. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>OTHER TRANSPORT VEHICLE</td> </tr> <tr> <td>e. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>WATER/OTHER LIQUID</td> </tr> <tr> <td>f. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>GROUND/FLOOR/ROADWAY</td> </tr> <tr> <td>g. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>ROADSIDE OBSTACLE</td> </tr> <tr> <td>h. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>NONE</td> </tr> <tr> <td>i. <input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>OTHER</td> </tr> </table>			A	B	C		a. <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OTHER FREIGHT	b. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FORKLIFT	c. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NAIL/PROTRUSION	d. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OTHER TRANSPORT VEHICLE	e. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WATER/OTHER LIQUID	f. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GROUND/FLOOR/ROADWAY	g. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ROADSIDE OBSTACLE	h. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NONE	i. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OTHER																											
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IX. DESCRIPTION OF EVENTS: Describe the sequence of events that led to incident, action taken at time discovered, and action taken to prevent future incidents. Include any recommendations to improve packaging, handling, or transportation of hazardous materials. Photographs and diagrams should be submitted when necessary for clarification. ATTACH A COPY OF THE HAZARDOUS WASTE MANIFEST FOR INCIDENTS INVOLVING HAZARDOUS WASTE. Continue on additional sheets if necessary.

Our vehicle was involved in a minor traffic accident which caused the load to shift and puncture one of the drums. The leaking drum and all of the spilled Acetone was removed for disposal by Hazmat Cleanup Service Inc. to their site at 9987 Old Town Road, March, VA. The vehicle was taken to our Alexandria terminal and cleaned (washed and steamed).

A Highway Patrolman on the scene had some of the spilled liquid splash on his hand. He received first aid at the scene for his skin irritation.

46. NAME OF PERSON RESPONSIBLE FOR PREPARING REPORT Gonzalez	47. SIGNATURE	
48. TITLE OF PERSON RESPONSIBLE FOR PREPARING REPORT Traffic Safety Coordinator	49. TELEPHONE NUMBER (Area Code) (703) 666-4321	50. DATE REPORT SIGNED April 5, 1995

HLPAD Accident Report Form

HMIRS Datafield Dictionary

DATASET DESCRIPTIONS

DATABASE: [\$TEMP]
HAZMAT
DIRECTORY: INCIDENTS

This dataset contains information corresponding to the data fields on the front of the incident report form that answers the questions when, what, where and how of the incident. This data is used to generate various summary statistics. This dataset can be used to map to the HAZCON and HAZRMK datasets.

DATASET: HAZMAT			DIRECTORY: INCIDENTS	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
REPORT_NUMBER	RPTNO	Text	8	8-digit code which contains the year, month and sequence the incident report was received. Uniquely identifies each report.
MULTIPLE_CODE	MTPL	Text	1	Alphabetical code which appears to the right of the report number describing the type of incident.
MODE_OF_TRANSPORT	MODE	Int	3	Describes the mode of transportation in which the incident occurred. Taken from Section I, #1.
MODE_OTHER_DESC	MODEO	Text	16	Description of the other transportation mode. Taken from Section I, #1.
DATE_OF_INCIDENT or INCIDENT_DATE	IDATE	Date	10	Date the incident occurred. Taken from Section I, #2.
TIME_OF_INCIDENT	ITIME	Time	5	Time the incident occurred. Taken from Section I, #2.
INCIDENT_CITY	ICITY	Text	25	City in which the incident occurred. Taken from Section I, #3.
INCIDENT_COUNTY	ICOUN	Text	22	County in which the incident occurred. Taken from Section I, #3.
INCIDENT_STATE	IST	Text	2	State in which the incident occurred. Taken from Section I, #3.
INCIDENT_ROUTE	IROUT	Text	30	Street location on which the incident occurred. Taken from Section I, #3.
CARRIER_ID	CARID	Text	9	9-digit code used to identify the carrier.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
CARRIER_NAME	CARRI	Text	30	Name of the company responsible for transport of the product. Taken from Section II, #4.
CARRIER_ADDRESS	CARAD	Text	30	Street address of the carrier. Taken from Section II, #5.
CARRIER_CITY	CACIT	Text	25	City the carrier resides in. Taken from Section II, #5.
CARRIER_STATE	CARST	Text	2	State the carrier resides in. Taken from Section II, #5.
CARRIER_ZIP	CAZIP	Text	9	Zip code of the carrier location. Taken from Section II, #5.
CARRIER_REPORTING_NO	CRPNO	Text	12	Modal carrier identifier number or code. Taken from Section II, #6.
SHIPPER_ID	SHPID	Text	9	9-digit code used to identify the shipper.
SHIPPER_NAME	SHIPR	Text	30	Name of the company shipping a product. Taken from Section III, #7.
SHIPPER_ADDRESS	SHPAD	Text	30	Street address of the shipper. Taken from Section III, #7.
SHIPPER_CITY	SHCIT	Text	25	City the shipper resides in. Taken from Section III, #7.
SHIPPER_STATE	SHPST	Text	2	State the shipper resides in. Taken from Section III, #7.
SHIPPER_ZIP	SHZIP	Text	9	Zip code of the shipper's location. Taken from Section III, #7.
CONSIGNEE_ID	CONID	Text	9	9-digit code used to identify the consignee.
CONSIGNEE_NAME	CONSI	Text	30	Name of the company product is to be delivered to. Taken from Section III, #8.
CONSIGNEE_ADDRESS	CONAD	Text	30	Street address of the consignee. Taken from Section III, #8.
CONSIGNEE_CITY	COCIT	Text	25	City the consignee resides in. Taken from Section III, #8.
CONSIGNEE_STATE	CONST	Text	2	State the consignee resides in. Taken from Section III, #8.
CONSIGNEE_ZIP	COZIP	Text	9	Zip code of the consignee location. Taken from Section III, #8.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
ORIGIN_SAME_AS_SHIPPER	ORSHP	Logi	1	Identifies if the origin location of delivery is the same as the shipper location.
ORIGIN_ADDRESS	ORIAD	Text	30	Street address where the shipment of the hazardous material originated. Taken from Section III, #9.
ORIGIN_CITY	OCITY	Text	25	City where shipment of the hazardous material originated. Taken from Section III, #9.
ORIGIN_STATE	OST	Text	2	State where shipment of the hazardous material originated. Taken from Section III, #9.
ORIGIN_ZIP	OZIP	Text	9	Zip code of state where shipment of the hazardous materials originated. Taken from Section III, #9.
DESTINATION_SAME_AS_CONSIG	DECON	Logi	1	Identifies if the destination location of the shipment of the hazardous materials is the same as the consignee location.
DESTINATION_ADDRESS	DESAD	Text	30	Street address where shipment of the hazardous materials is destined. Taken from Section III, #10.
DESTINATION_CITY	DCITY	Text	25	City where shipment of the hazardous materials is destined. Taken from Section III, #10.
DESTINATION_STATE	DST	Text	2	State where shipment of the hazardous materials is destined. Taken from Section III, #10.
DESTINATION_ZIP	OZIP	Text	9	Zip code of state where shipment of the hazardous materials is destined. Taken from Section III, #10.
SHIPPING_PAPER_NO	SHPNO	Text	16	Identification number of papers used to identify shipment of hazardous materials being transported. Taken from Section III, #11.
COMMODITY_CODE	CMCD	Text	5	5-digit office generated code used to identify and standardize the commodity being shipped.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
COMMODITY_SHIPPING_NAME	COMOD	Text	25	Name of the product being transported. Taken from Section IV, #12.
COMMODITY_TRADE_NAME	TRADE	Text	20	Commonly used name of the product being transported. Taken from Section IV, #13.
COMMODITY_CLASS	CMCL	Text	2	2-digit code to identify the hazard class of the product being transported. Taken from Section IV, #14.
UN_NUMBER	UNNUM	Text	6	United Nations identification number of the product being transported. Taken from Section IV, #15.
HAZARDOUS_SUBSTANCE	HAZSUB	Logi	1	Identifies whether the material being transported is listed as a hazardous substance. Taken from Section IV, #16.
RQ_MET	RQMET	Logi	1	Identifies whether the reportable quantity of the material being transported was met. Taken from Section IV, #17.
QUANTITY_RELEASED	RQUAN	Real	9	Amount of material released. Taken from Section V, #18.
QUANTIN_RELEASED_CODE	RCODE	Int	1	Code that indicates that the quantity was provided by the report preparer.
UNITS_OF_QUANT_RELEASED	RUNIT	Text	3	Units (gal./lbs./cfts.) of the amount of transported material released. Taken from Section V, #18.
DEATHS	DEAD	Int	2	Number of deaths that occurred due to the hazardous material released during transportation. Taken from Section V, #19.
MAJOR_INJURIES	MJINJ	Int	3	Number of serious injuries that occurred due to the hazardous materials released during transportation. Taken from Section V, #20.
MINOR_INJURIES	MNINJ	Int	3	Number of minor injuries that occurred due to the hazardous materials released during transportation. Taken from Section V, #21.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
NUMBER_EVACUATED	NEVAC	Int	6	Number of people evacuated from an area because of the hazardous materials released during transportation. Taken from Section V, #22.
PRODUCT_LOSS	PLDAM	Int	8	Dollar value of the product lost. Taken from Section V, #23A.
PRODUCT_LOSS_CODE	PLDCD	Text	1	A code that indicates that the dollar value was provided by the report preparer.
CARRIER_DAMAGE	CADAM	Int	8	Dollar value of the damage sustained by the carrier. Taken from Section V, #23B.
CARRIER_DAMAGE_CODE	CADCD	Text	1	A code that indicates that the dollar value was provided by the report preparer.
PUB_PRI_DAMAGE	PPDAM	Int	8	Dollar value of the damage sustained to public or private property. Taken from Section V, #23C.
PUB_PRI_DAMAGE_CODE	PPDCD	Text	1	Code that indicates that the dollar value of damage to public or private property was provided by the report preparer.
DECON_DAMAGE	DCDAM	Int	8	Dollar value of the cleanup effort or decontaminating the area involved in the product spillage. Taken from Section V, #23D.
DECON_DAMAGE_CODE	DCDCD	Text	1	Code that indicates that the dollar value of the cleanup effort or decontaminating the area involved in the incident was provided by the report preparer.
OTHER_DAMAGE	OTDAM	Int	8	Dollar value of the damage or efforts not already mentioned in the incident. Taken from Section V, #23E.
OTHER_DAMAGE_CODE	OTDCD	Text	1	Code that indicates that the dollar value of OTHER_DAMAGE was provided by the report preparer.
REPORT_DAMAGE	RPDAM	Int	8	Total dollar value of fields 23A thru 23E of the report.
REPORT_DAMAGE_CODE	RPDCD	Text	1	Code that indicates that the report total was provided by the report preparer.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
INCIDENT_DAMAGE	DAMAG	Int	8	Total damage value for an incident. (Not in use.)
DAMAGE_CODE	DAMCD	Text	1	Code that indicates that the total dollar value was provided by the report preparer.
RESULT_VAPOR	VAPOR	Logi	1	Identifies whether vapor being released was a consequence of the incident.
RESULT_SEWER	SEWER	Logi	1	Identifies whether the commodity entering a waterway or sewer system was a consequence of the incident.
RESULT_SPILL	SPILL	Logi	1	Identifies whether the commodity released as a consequence of the incident.
RESULT_FIRE	FIRE	Logi	1	Identifies whether a fire occurred as a consequence of the incident.
RESULT_EXPLO	EXPLO	Logi	1	Identifies whether an explosion occurred as a consequence of the incident.
RESULT_ENVIR	ENVIR	Logi	1	Identifies whether environmental damage occurred as a consequence of the incident.
RESULT_NONE	RNONE	Logi	1	Identifies if there were no consequences of the incident.
RESULT_OTHER	ROTH	Logi	1	Identifies whether there were other consequences of the incident. See RESULT_OTHER.
RESULT_OTHER_DESC	ROTHD	Text	16	Description of the other consequences of the incident.
VEHICLE_CARGO	CARGO	Logi	1	Identifies that a cargo tank was the vehicle involved in the incident.
VEHICLE_VAN	VANTR	Logi	1	Identifies that either a van, truck, or trailer was the vehicle involved in the incident.
VEHICLE_FLAT	FLATT	Logi	1	Identifies that a flatbed truck or trailer was the vehicle involved in the incident.
VEHICLE_TANK_CAR	TCAR	Logi	1	Identifies that a tank car was the vehicle involved in the incident.
VEHICLE_RAIL_CAR	RCAR	Logi	1	Identifies that a rail car was the vehicle involved in the incident.

DATASET: <i>HAZMAT</i>			DIRECTORY: <i>INCIDENT</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
VEHICLE_TOFC	TOFC	Logi	1	Identifies that a trailer or container on a flat car was the vehicle involved in the incident.
VEHICLE_AIRCRAFT	PLANE	Logi	1	Identifies that an aircraft was the vehicle involved in the incident.
VEHICLE_BARGE	BARGE	Logi	1	Identifies that a barge was the vehicle that was involved in the incident.
VEHICLE_SHIP	SHIP	Logi	1	Identifies that a ship was the vehicle that was involved in the incident.
VEHICLE_OTHER	VOTH	Logi	1	Identifies that an unlisted vehicle type was involved in the incident.
VEHICLE_OTHER_DESC	VOTHD	Text	16	Description of other types of vehicles involved in the incident.
TRANSPORTATION_PHASE	PHASE	Int	3	Transportation phase when the incident occurred.
LAND_USE	LUSE	Int	3	Type of land use where the incident occurred.
COMMUNITY_TYPE	CTYPE	Int	3	Type of community where the incident occurred.
ACCIDENT_OR_DERAIL	ACCDR	Logi	1	Identifies if the incident occurred because of a vehicle accident or derailment.
ESTIMATED_SPEED	SPEED	Int	3	Speed of vehicle when the incident occurred.
HIGHWAY_TYPE	HTYPE	Int	3	Type of highway where the incident occurred.
HIGHWAY_LANES	LANES	Int	1	Number of lanes on the highway where the incident occurred.
GENERAL_CAUSE	CAUSE	Int	3	Code that states whether the incident was caused by human error, vehicle accident, package failure or another reason.
MISCELLANEOUS_INFO_1	MISC1	Int	3	Code that states important factors concerning the incident.
MISCELLANEOUS_INFO_2	MISC2	Int	3	Code that states important factors concerning the incident.
ATTACHMENTS	ATTACH	Logi	1	Identifies whether there are attachments received with the original form.

DATASET: <i>HAZMAT</i>			D I R E C T O R Y: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
RECOMMENDATIONS	RECOM	Logi	1	Identifies whether comments are given in Section IX of the incident form suggesting recommendations.
REPORTERS_NAME	RNAME	Text	25	Name of incident report preparer.
REPORTERS_TITLE		Text	25	Title of incident report preparer.
REPORTERS_PHONE		Text	12	
REPORT_DATE		Date	10	Date the incident report was filled out.
DATE_ADDED_TO_DATA_SET or DATE_OF_ENTRY	D O E	Date	10	Date the incident report was added to the dataset.
DATE_OF_LAST_CHANGE or DATE_OF_CHANGE	DOC	Date	10	Date the last change was made to the incident report,
INTEGER_OF_ID	INTID	Int	10	System generated number that is used to match the same report in other datasets.

DATABASE: [\$TEMP]
DATASET: HAZCON
DIRECTORY: INCIDENTS

This dataset stores the packaging information reported on the back of the incident form for a hazardous materials incident: type of packaging, how many failed and the reason why it failed. This dataset can be used to map to the HAZMAT dataset.

DATASET: <i>HAZCON</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
REPORT_NUMBER	RPTNO	Text	8	8-digit code which contains the year, month and sequence the incident report was received. Uniquely identifies each report.
MULTIPLE_CODE	MTPL	Text	1	Alphabetical code which appears to the right of the report number describing the number of reports for an incident.
CONTAINER_SEQUENCE	SEQ	Int	1	Sequential ordering from the inner to outermost container.
TYPE_OF_CONTAINER	CNPE or CNAME	Text	8	Packaging name.
CAPACITY_CONTAINER	CCAP	Real	9	Indicates the size of the package.
CAPACITY_CONTAINER_CODE	CAPCD	Text	1	Code that indicates that the capacity value was provided by the report preparer.
CAPACITY_UNITS	CUNIT	Text	3	Identifies the units (gals./lbs./cfts.) of the container.
NUMBER_FAILED	NFAIL	Int	5	Number of packages releasing material in the incident.
NUMBER_FAILED_CODE	NFLCD	Text	1	Code that indicates that the figure was provided by the preparer of the report.
NUMBER_IN_SHIPMENT	NSHIP	Int	5	Number of packages being transported.
NUMBER_IN_SHIPMENT_CODE	NSPCD	Text	1	Code that indicates that the number being transported was provided by the report preparer.
GAUGE_OF_CONTAINER	GAUGE	Text	12	Identifies package markings or other information.
MANUFACTURERS_ID	MFGID	Text	9	9-digit code used to standardize and identify the container manufacturer's name.
MANUFACTURERS_NAME	MANUF	Text	30	Name of the company that manufactures the packaging as taken from Section VII, #36.

DATASET: HAZCON			DIRECTORY: INCIDENTS	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
MANUFACTURERS_CITY	MCITY	Text	25	City the manufacturer resides as taken from Section VII, #35.
MANUFACTURERS_STATE	MST	Text	2	State the manufacturer resides as taken from Section VII, #35.
TANK_SERIAL_NO	TKID	Text	10	Gives the packaging serial number.
LABEL_OR_PLACARD	LRP	Text	7	Color-coded sign that states the class of the product dependent upon the size of the package.
REGISTRATION_NO	RNUM	Text	6	Registration code assigned to a container if it has been reconditioned or requalified.
INSPECTION_DATE	INSP	Date	10	Last date the package was inspected.
EXEMPTION_NO	ENUM	Text	10	Number that states whether a company is exempt from a particular regulation.
VEHICLE_COLLISION	VCOLL	Logi	1	Identifies whether a vehicle collision occurred.
VEHICLE_OVERTURN	VOVER	Logi	1	Identifies whether a vehicle overturned or derailed.
OVERLOAD_OVERFILL	OLOAD	Logi	1	Identifies whether a container was overfilled.
LOOSE_FITTING	LOOSE	Logi	1	Identifies whether loss of product occurred because of a loose fitting or closure.
DEFECTIVE_FITTING	DEFCT	Logi	1	Identifies whether loss of product occurred due to a defective fitting.
DROPPED	DROPD	Logi	1	Indicates the package involved has been dropped causing product loss.
STRUCK_RAMMED	STRCK	Logi	1	Indicates the package involved has been struck causing product loss.
IMPROPER_LOADING	ILOAD	Logi	1	Indicates the package has been loaded incorrectly, i.e. heavy packages on top.
IMPROPER_BLOCKING	BLOCK	Logi	1	Indicates the package has been blocked incorrectly, i.e. package has not been tied down.
CORROSION	CORRO	Logi	1	Indicates package has corroded causing product loss.

DATASET: <i>HAZCON</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
METAL_FATIGUE	FATIG	Logi	1	Indicates the packaging has weakened due to overuse or defects in the manufacture of the package.
FRICTION_RUBBING	FRICT	Logi	1	Indicates that the package failed due to contact with its surroundings.
FIRE_HEAT	FIRE	Logi	1	Indicates that fire or heat caused defects in the packaging allowing product loss.
FREEZING	FREEZ	Logi	1	Indicates that freezing cold or ice contributed to product loss.
VENTING	VENT	Logi	1	Indicates product was released through closures because of pressure.
VANDALISM	VANDL	Logi	1	Indicates product was released from packaging because of vandalism.
INCOMPATIBLE_MATERIAL	INCOM	Logi	1	Indicates two materials should not be in contact with one another.
CONTRIBUTING_OTHER	COTH	Logi	1	Indicates there was another reason contributing to package failure. See CONTRIBUTING_OTHER_DESCRIPTION.
CONTRIBUTING_OTHER_DESC	COTHD	Text	16	Explanation as to what contributed to the package failure.
OTHER_FREIGHT	FRGHT	Logi	1	Indicates whether another form of freight was responsible for package failure.
FORKLIFT	FUFT	Logi	1	Indicates whether a forklift was responsible for the package failure.
NAIL_PROTRUSION	NAIL	Logi	1	Indicates whether a nail or another type of protrusion is responsible for package failure.
OTHER_VEHICLE	VEHCL	Logi	1	Indicates whether another vehicle is responsible for package failure.
WATER		Logi	1	Indicates whether water is responsible for package failure.
GROUND_FLOOR_ROAD_WAY	FLOOR	Logi	1	Indicates whether package failure was due to contact with ground, floor, or roadway.

DATASET: HAZCON			DIRECTORY: /NC/DENTS	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
ROADSIDE_OBSTACLE	OBSTC	Logi	1	Indicates whether a roadside obstacle was the reason for the package failure.
NO_OBJECT	NONE	Logi	1	Identifies that no object caused the package failure.
OBJECT_OTHER	OOTH	Logi	1	Identifies that another object caused the package failure. See OBJECT_OTHER_DESCRIPTION.
OBJECT_OTHER_DESC	OOTH D	Text	16	Explanation as to what object caused the package failure.
PUNCTURED	PUNCT	Logi	1	Indicates that a puncture caused the package failure.
CRACKED	CRACK	Logi	1	Indicates that a crack caused the package failure.
BURST_INTL_PRESSURE	BURST	Logi	1	-Indicates that internal pressure caused the package failure.
RIPPED	RIPPD	Logi	1	Indicates that a rip caused package. failure.
CRUSHED	CRUSH	Logi	1	Indicates the package failed because the package was crushed.
RUBBED_ABRADED	ABRAD	Logi	1	Indicates the package failed because the package was rubbed or abraded.
RUPTURED	RUPTD	Logi	1	Indicates that the package failed because it ruptured.
HOW_FAILED_OTHER	HOTH	Logi	1	Identifies another cause for the package failure. See HOW_FAILED_OTHER_DESC.
HOW_FAILED_OTHER_DESC	HOTH D	Text	16	Explanation as to how the package failed.
END_FORWARD	FORWD	Logi	1	Identifies whether the front of the package failed.
END_REAR	R E A R	Logi	1	Identifies whether the back of the package failed.
SIDE_RIGHT	RIGHT	Logi	1	Identifies whether the right side of the package failed.
SIDE_LEFT	LEFT	Logi	1	Identifies whether the left side of the package failed.
TOP		Logi	1	Identifies whether the top of the package failed.

DATASET: <i>HAZCON</i>			DIRECTORY: <i>INCIDENTS</i>	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
BOTTOM	BOTTM	Logi	1	Identifies whether the bottom of the package failed.
CENTER	CENT	Logi	1	Identifies whether the center of the package failed.
AREA_OTHER	AOTH	Logi	1	Identifies that there was another area on the package that failed. See AREA-OTHER-DESCRIPTION.
AREA_OTHER_DESC	AOTHD	Text	16	Explanation of where the package failed.
PACKAGE_MATERIAL	MATRL	Logi	1	Identifies that the package material failed.
FITTING_VALVE	VALVE	Logi	1	Identifies whether a filling or valve on the package failed.
CLOSURE	CLOSE	Logi	1	Identifies whether the closure on the package failed.
CHIME		Logi	1	Identifies whether a chime on the package failed.
WELD_SEAM	WELD	Logi	1	Identifies whether a seam or weld on the package failed.
HOSE_PIPING	HOSE	Logi	1	Identifies whether a hose or piping on the package failed.
INNER-LINING	INLIN	Logi	1	Identifies whether the inner lining on the package failed.
WHAT_FAILED_OTHER	WOTH	Logi	1	Indicates there was something else that failed on the package. See WHAT_FAILED_OTHER_DESC.
WHAT_FAILED_OTHER_DESC	WOTHD	Text	16	Explanation of the area that failed on the package.
DATE_ADDED_TO_DATA_BASE or DATE_OF_ENTRY	DOE	Date	10	System-generated field which indicates the date a record was added to the dataset.
DATE_OF_LAST_CHANGE or DATE_OF_CHANGE	DOC	Date	10	System-generated field which indicates the date a change was made to a record.
INTEGER_OF_ID	INTID	Int	10	Number that is used to match the same report in other datasets.

DATABASE: [\$TEMP]

DATASET: HAZRMK
DIRECTORY: INCIDENTS

This dataset contains the comments from the hazardous materials incident report. These comments have also been taken from attachments that may be sent with the incident report.

DATASET: HAZRMK			DIRECTORY: /NC/DENTS	
FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
REPORT_NUMBER	RPTNO	Text	8	8 digit code which contains the year, month and sequence the incident report was received. Uniquely identifies each report.
SEQUENCE_NUMBER	SEQ	Int	3	Sequential number used to sort the remarks in the proper order.
REMARKS	REM	Text	75	Comments taken from the incident report that are written by the report preparer.
DATE_OF_CHANGE	DOC	Date	10	System-generated field which indicates the date a change was made to a record.
DATE_OF_ENTRY	DOE	Date	10	System-generated field which indicates the date a record was added to the dataset.

HLPAD Datafield Dictionary

DATASET NAME: LIQLCK.DMS

This dataset contains the information from the liquid accident report Form RSPA F 7000-1 (4-85).

FIELD NAME	ABBREV	TYPE	SIZE	DESCRIPTION
REPORT_YEAR	YR	INT	2	Year of report YY.
REPORT_NUMBER	LOG	INT	4	Unique identifier assigned by OPS.
REPORT_ID	RPTID	INT	6	DOT assigned Id number for report.
OPERATOR_CODE	OPID	INT	5	Part A-1. - DOT assigned number for the operator.
OPERATOR_NAME	NAME	TEXT	50	Part A-1. - Name of the operator or company.
INTERSTATE_PIPELINE	INTER	INT	2	Part A-3. - Is pipeline interstate? 0 - No data 1 - Yes 2 - No
INCIDENT_DATE	IDATE	DATE	10	Part B-1. - Hour accident took place.
INCIDENT_HOUR	DTHH	INT	4	Part B-2. - Hour accident took place.
INCIDENT_STATE	ACCST	TEXT	2	Part B-3. - State where accident took place.
INCIDENT_COUNTY	ACCNT	TEXT	25	Part B-3. - County where accident took place.
INCIDENT_CITY	ACCTY	TEXT	25	Part B-3. - City at or near where accident took place.
OFFSHORE_COORDINATES	COOR	TEXT	25	Part B-4. - If offshore, offshore coordinates.
INCIDENT_ON_FEDERAL_LAND	IFED	TEXT	2	Part B-5. - 0 - No Data 1 - Yes 2 - No
SPECIFIC_LOCATION	SPLOC	TEXT	160	Part B-6. - Description of the Specific location where incident occurred.
CARRIER_SYSTEM_INVOLVED	CSYS	INT	1	Part C-1. - Part of system involved 0 - No data 1 - line pipe 2 - tank farm 3 - pump station
ORIGIN_OF_RELEASE	ORGLK	INT	2	Part C-2. - Origin of release of liquid or vapor. 0 - No data 1 - pipe 2 - valve 3 - scraper trap 4 - pump 5 - welding fitting 6 - girth 7 - tank 8 - bolted fitting 9 - longitudinal weld 10 - other
ORIGIN_OF_RELEASE_OTHER	ORGLO	TEXT	25	Part C-2. - Text for choice 10 above.
YEAR_ITEM_INSTALLED	ITMYR	INT	4	Part C-3. - Year item was installed.
ACCIDENT_CAUSE	CAUS	INT	1	Part D. - Cause of accident. 1 - corrosion 2 - failed weld 3 - incorrect operation by operator personnel 4 - failed pipe 5 - outside force damage 6 - malfunction of control or relief equipment 7 - other
ACCIDENT_CAUSE_OTHER	CAUSO	TEXT	25	Part D. - Text for choice 7 above.

TOTAL_FATALITIES	TFAT	INT	3	Part E-1. - Number of persons killed.
EMPLOYEE_FATALITIES	EFAT	INT	3	Part E-1. - Number of operator employees killed.
NON_EMPLOYEE_FATALITIES	NFAT	INT	3	Part E-1. - Number of non-employees killed.
TOTAL_INJURIES	TINJ	INT	3	Part E-2. - Number of persons injured.
EMPLOYEE_INJURIES	EINJ	INT	3	Part E-2. - Number of operator employees injured.
NON_EMPLOYEE_INJURIES	NINJ	INT	3	Part E-2. - Number of non-employees injured.
PROPERTY_DAMAGE	PRPTY	INT	8	Part F. - Dollar amount.
COMMODITY_TRANSPORTED	COMM	TEXT	30	Part G-1. - Name of commodity spilled. Found in dataset STCC.
COMMODITY_TRANSPORTED_ID	COMID	INT	7	Part G-1. - ID of commodity spilled. (Coded on form).
CLASSIFICATION_OF_COMMOD	CLASS	INT	1	Part G-2. - Classification of commodity spilled. 0 - No data 1 - Petroleum 2 - Petroleum product HVL 3 - Petroleum product non-HVL
ESTIMATED_LOSS_BARREL	LOSS	INT	6	Part G-3. - Estimated amount of barrels spilled.
ESTIMATED_RECOVER_BARREL	RECOV	INT	6	Part G-3. - Estimated number of barrels recovered.
FIRE_CAUSED	FIRE	INT	2	Part G-5. - Was there a fire? 0 - No data 1 - Yes 2 - No
EXPLOSION	EXP	INT	2	Part G-4. - Was there an explosion? 0 - No data 1 - Yes 2 - No
NOMINAL_DIAMETER	NMDIA	REAL	6	Part H-1. - Nominal Diameter (inches).
THICKNESS_WALL	THK	REAL	6	Part H-2. - Wall thickness (inches).
SYSTEM_MAX_YIELD_STRGTH	SMYS	INT	7	Part H-3. - Maximum yield strength of systems (psi).
JOINT_TYPE	JNT	INT	1	Part H-4. - Type of joint. 0 - No data 1 - Welded 2 - Flanged 3 - Threaded 4 - Coupled 5 - Other
PIPE_ABOVE_GROUND	GRND	INT	2	Part H-5. - Level of pipe. 1 - Below ground 2 - Above ground
PRESSURE_DESIGN	DSPRS	INT	4	Part H-6. - Maximum operating pressure (psig).
PRESSURE_ACCIDENT	ACPRS	INT	4	Part H-7. - Pressure at time and location of accident (psig).
PRESSURE_TEST	PRTST	INT	2	Part H-8. - Had there been a pressure test on the system? 0 - No data 1 - Yes 2 - No
DURATION_OF_TEST	DUR	INT	3	Part H-9. - Duration of test (hrs).
MAX_TEST_PRESSURE	MXPRS	INT	4	Part H-10. - Maximum test pressure (psig).
LATEST_TEST_MONTH	TSTMM	INT	2	Part H-11. - Month of latest test.
LATEST_TEST_YEAR	TSTYY	INT	2	Part H-11. - Year of latest test.

CORROSION_LOCATION	CORLC	INT 2	Part I-1. - Location of corrosion. 0 - No data 1 - Internal 2 - External
FACILITY_COATED	FACTD	INT 2	Part I-2. - Facility coated? 0 - No data 1 - Yes 2 - No
FAC_CATHODICALLY_PROT	FACAT	INT 2	Part I-3. - Facility under cathodic protection? 0 - No data 1 - Yes 2 - No
CORROSION_TYPE	CORR	INT 2	Part I-4. - Type of corrosion. 0 - No data 1 - Galvanic 2 - Other
CORROSION_TYPE_OTHER	CORRO	TEXT 25	Part I-4. - Text for choice 2 above.
PRIMARY_CAUSE	CAULK	INT 2	Part J-1. - If spilled was caused by outside force, then primary cause of spill. 0 - No data 1 - Damage by operator or its contractor 2 - Damage by others 3 - Damage by natural forces 4 - Landslide 5 - Subsidence 6 - Washout 7 - Frotheave 8 - Earthquake 9 - Ship anchor 10 - Mudslide 11 - Fishing Operations 12 - Other
PRIMARY_CAUSE_OTHER	CAULO	TEXT 25	Part J-1. - Text for choice 12 above.
DAMAGE_PREVENT_PROGRAM	PREVT	INT 2	Part J-2. - Was a damage prevention program in effect? 0 - No data 1 - Yes 2 - No
ONE_CALL	ONECL	INT 2	Part J-3. - If Yes above, was the program "one-call" or other? 0 - No data 1 - "One-call" 2 - Other
ONE_CALL_OTHER	ONEOT	TEXT 25	Part J-3. - Text for choice 2 above.
EXCAVATOR_CALL	EXCAL	INT 2	Part J-4. - Did excavator call? 0 - No data 1 - Yes 2 - No
TEMPORARILY_MARKED	TMPMK	INT 2	Part J-5. - Was pipeline location temporarily marked for the excavator? 0 - No data 1 - Yes 2 - No
REPORTING_OFFICIALS_NAME	RNAME	TEXT 60	Name and title of operator official filing report.
PREPARERS_PHONE_NUMBER	PHONE	TEXT 10	Phone number of operator official filing report.
NO_REPORTABLE	NORPT	TEXT 1	Entered if report does not meet reporting requirements.
TELEPHONICS_REPORT_NO	TELRN	TEXT 10	Report number of matching telephonic report (RNO in Telephonics database).
TELEPHONICS_ID	TELID	INT 5	ID number of matching telephonic report (ID in Telephonics database).

DATE_OF_RECEIVED_AT_DOT	DOR	DATE 10	Date report was received at DOT. Stamped on report by DOT.
DATE_OF_ENTRY	DOE	DATE 10	System generated date for data entry.
DATE_OF_CHANGE	DOC	DATE 10	System generated date for any change in the data entry.

These are the cause codes and cause descriptions for the liquid accidents dataset.

1. Corrosion
2. Failed Weld
3. Incorrect Operation by Operator Personnel
4. Failed Pipe
5. Outside Force Damage
6. Malfunction of Control or Relief Equipment
7. Other
0. No data

These are the commodity codes and descriptions for the liquid accident dataset.

2815154	ALKYLATE
2819815	ANHYDROUS AMMONIA
4905706	BUTANE
2813320	CARBON DIOXIDE
2911976	CONDENSATE
1311110	CRUDE OIL
2911315	DIESEL FUEL
2871244	FERTILIZER, AMMONIUM NITRATE
2911715	FUEL OIL
2911135	GASOLINE
2911130	JET FUEL
2911230	KEROSENE
4905711	L.P.G., PROPANE, ETHANE
4908176	NATURAL GAS LIQUID, BUTANE
2911190	OIL AND GASOLINE
4905781	PROPANE
2814167	TOLUENE
2911735	TRANSMIX (PART. REFINED PETRO)
2911225	TURBINE FUEL
2814170	XYLENE

IMIS Datafield Dictionary

IMIS Derived File field Definitions

The following is a brief definition of the data elements comprising the IMIS derived file fields. The field names in the first column correspond to the COBOL include module, DR\$\$INSP. Note that unused numeric fields, including dates, are set to spaces.

Fixed Stem portion -- first 269 characters of the record.

Field Name	Description	Values/format
Continuation-Flag	Indicates whether record is a continuation of the previous record (occurs for records with more than 99 violations - less than 20)	b (blank) = No X = Yes
History-Flag	Identifies record as MIS or IMIS	H = Historical (7/72- 3/84) b = IMIS (After 3/84) X/T = Entered on-line p = Entered on IV-Phase
OSHA1-MOD-PROC	Latest date record was modified.	YYMMDD
State-Flag	Indicates whether record is federal or state(18b)	b = federal S = state
Prev-Act-Type	Indicates if previous OSHA activity occurred at Location inspected and the type of activity	b = No Activity A = Accident I = Inspection C = Complaint R = Referral
Prev-Act-Nr	Activity number for previous OSHA Activity	
Activity-Nr	Unique pre-printed or generated (MIS) number that identifies the OSHA-1 and in the derived file is the record identifier	
Report-ID	7-digit identification code of each OSHA and State (18b) office, uniquely identifying office conducting inspection.	Appendix B of code manual has all codes
Region	DOL region code(first 2 digits of Report-ID)	values 01-10
Area-Code	Area office code (next 3 digits of Report-ID)	values 111-578 <500 = Federal Office >500 = State Office
Office-Code	Code identifying Federal district or state sub-office (last 2 digits of Report-ID)	values 00-99
CSHO-ID	CSHO number of compliance officer who conducted inspection.	
Job-Title	Job classification of CSHO who conducted inspection	A = Area Director C = Safety Officer I = Health Officer L = Safety Trainee M = Health Trainee S = Supervisor V = Discrimination Invest. W = Regional Mgt. X = Regional FSO Y = Regional Tech Supp
Opt-Rpt-Nr	Option report number (used for identifier in MIS system)	

Field Name	Description	Values/format
Site-Info	Next 7 fields give the site location of the inspection	
Estab-Name	Name of the firm inspected	
Site-Street	Street location	
Site-State	State	2 character alpha postal abbreviation
Site-ZIP	ZIP	5 digit ZIP in packed format
Site-City-Code	4 digit city code from GSA geographical location codes	Binary format
Site-Cnty-Code	3 digit FIPS county code	Packed format
Duns-Nr	Duns Number	Binary format
Owner	Ownership designation	A = Private sector B = Local Government C = State Government D = Federal Government
Owner-Code	Agency Code for Federal Agency inspections	Packed format
Adv-Notice	Advance notice given	X = Yes b = No
Open-Date	Date of opening conference or entry or attempted entry into the site	YYMMDD
Close-Conf-Date	Date of closing conference held before issuing citations or exit from inspection site	YYMMDD
S-H	Safety or Health inspection	S = Safety H = Health
SIC	Primary SIC code for firm's activity	
SIC-Guide	Secondary SIC	
SIC-Inspd	SIC inspected if different from primary SIC (18b States only)	
Inspection-Type	Type of Inspection Types A, B, C, D, E, F, G, and J are unprogrammed. Types H, I, and K are programmed.	A=Fat/Cat E=Variance B=Complaint F=Follow-up C=Referral G=UnProgRelated D=Monitoring J=UnProgOther H=Planned K=ProgOther I=ProgRelated L=Other
Inspection-Scope	Scope or coverage of the Inspection	A = Comprehensive B = Partial C = Records Only D = No Inspection
Nr-In-Estab	Maximum number of employees at the inspected site during the last 12 months.	
Nr-Covered	Number of employees covered by inspection	
Nr-Cb-Empr	Number of employees controlled by the employer nationally	
Walk-Around	Employee representative present during the inspection	X = Yes b = No

Field Name	Description	Values/format
Empl-Inter	Employees interviewed during inspection (18b States only)	X = Yes b = No
Union	Employees represented by a Union	X = Yes b = No
Close-Case		
Why-No-INS		
Close-Case-Date		
Safety-pg-man	Safety planned inspection in manufacturing	X = Yes b = No
Safety-pg-con	Safety planned inspection in construction	X = Yes b = No
Safety-pg-mar	Safety planned inspection in maritime	X = Yes b = No
Health-pg-man	Health planned inspection in manufacturing	X = Yes b = No
Health-pg-con	Health planned inspection in construction	X = Yes b = No
Health-pg-mar	Health planned inspection in maritime	X = Yes b = No
Local	Local emphasis program	
Spec-pgm	Special emphasis program	
Migrant		
Antic-Served	Warrant served or subpoena obtained prior to the start of the inspection	X = Yes b = No
First-Denial-Date	Date of initial denial of entry	YYMMDD
Last-Reenter-Date	Date CSHO re-entered firm for inspection after first or second denial of entry	YYMMDD
BLS-LWDI-Rate	Lost Work day injury rate for inspected site	
Dept-Collection	Next three data elements are used to track the debt collection process	
Pen-Due-Date	Date Penalties are due	YYMMDD
FTA-Due-Date	Date Failure to Abate penalties are due	
Due-Date-SRC	Source of Penalty Due Date	b=No Due Date N=Date 9/1/85 by National Office D=Date on Form OSHA 167-I R=Event Code on OSHA 167-I, Penalty Due Date = Final Order Date plus 60 Days J=Event code on OSHA 167-I, Penalty Due Date = Final Order Date plus 90 Days F=Final order Date on OSHA 167-I I=Citation Issuance Date + 20 Days A=Informal Settlement Date plus 20 Days
Insp-Disc-Hours	Total hours reported for this inspection by category - next 9 fields	
PA-Prep	Time spent preparing for this inspection	
PA-Travel	Time spent traveling to and from this inspection	
PA-On-Site	Time spent in the firm or at the job site	
PA-Tech-Supp	Time spent providing employer abatement assistance	

Field Name	Description	Values/format
PA-Rpt-Prep	Time spent researching and completing the case file	
PA-Other-conf	Time spent in all off-site case-related conferences	
PA-Litigation	Time spent preparing case for court and testifying	
PA-Denial	Time spent on all denial of entry activity from initial denial to re-entry or closing of case	
PA-Sum-Hrs	Sum of all inspection activity hours reported	
Derived-Info	Next seven fields are calculated or selected for the data blocks	
Earliest-Contest - Date	Earliest Date of Contest received	YYMMDD or b for non-contested inspection
Remitted-Pen-Amt	Total penalty dollars remitted	
Tot-Penalties	Sum of current penalties issued	
Tot-FTA	Sum of Failure to abate penalties issued	
Total-Violations	Total number of violations issued	
Total-Ser-Viols	Total number of serious, wilful, or repeat violations issued	
Block-Counts	Count for the number of data blocks appended to the record stem	acceptable range for number of blocks:
Nr-Relative	Number of related activity blocks	(0-10)
Nr-Optinfo	Number of Optional information blocks	(0-10)
Nr-Debt	Number of Debt information blocks	
Nr-Viols	Number of violation blocks	(0-226)
Nr-Event	Number of penalty/failure to abate event blocks	
Nr-Hazsub	Number of Hazardous substance blocks	(0-10)
Nr-Accid	Number of accident blocks	(0-10)
Nr-Adm-Pay	Number of administrative pay blocks	(0-10)
	End of Stem portion of record	
Seg-Relative	Relative Activity Block	9 characters
Rel-Item-Nr	Related Activity item number	
Rel-Type	Type of Related Activity	A = Accident I = Inspection C = Complaint R = Referral
Rel-Act-Nr	Activity number of related activity	
Rel-Safety	All safety hazards for complaint/referral are satisfied	

Field Name	Description	Values/format
Rel-Health	All health hazards for complaint/referral are satisfied	
Seg-Optinfo	Optional Information Block	15 characters
Opt-Type	Office level requesting the entry of Information	N = National Office R = Regional Office A = Area Office S = State
Opt-ID	Preassigned number identifying the information entered	
Opt-Value	Data	
Seg-Debt	Debt information Block	72 characters
Debt-Type	Sets the type of data in this block	P = Debt-Pen F = Debt-FTA M = Debt-Misc
Debt-Pen-FTA	Following define block for 'F' in Debt-Type	
Waived		
Waived-Reason		
Ref-Date		Packed - 4
Int		Packed - 5, 2 decimal places
DLQ		Packed - 5, 2 decimal places
DCA-Send-Date		Packed - 4
DCA-Ret-Date		Packed - 4
DCA-Recommend		
DCA-Litig-Amt		Packed - 5, 2 decimal places
DCA-Fee-Amt		Packed - 5, 2 decimal places
Archived		
DCA-Int		Packed - 5, 2 decimal places
DCA-DLQ		Packed - 5, 2 decimal places
DFO-Send-Date		Packed - 4
DFO-Ret-Date		Packed - 4
DFO-Recommend		
AO-Send-Date		Packed - 4
CB-Send-Date		Packed - 4
IRS-Send-Date		Packed - 4
CB-Ret-Date		Packed - 4

Field Name	Description	Values/format
Debt-Misc	Following define block for 'M' in Debt-Type	
Next-Install-Date		Packed - 4
Last-Install-Date		Packed - 4
SOL-Date		Packed - 4
SOL-Reason		
Case-Hold		
Viol-Rec	Violation Block	97 characters
Delete-Flag	Violation deleted for reason other than error in submission of data	b = violation not deleted
Issuance-Date	Date citation issued by Area Director	YYMMDD
Viol-Key	Unique identifier for each violation issued as a result of this inspection. Identifies citation number and violation number	
Emphasis		
Gravity		
Current-Penalty	Current penalty amount reflecting any changes or modifications to the initial penalty	
Initial-penalty	Initial assessed penalty amount	
Viol-Type	Type of violation (reflects any changes or modifications)	S = Serious R = Repeat W = Wilful O = Other
Initial-Viol-Type	Initial type of violation	S = Serious R = Repeat W = Wilful O = Other
STD	Standard cited	complete reference to 29 CFR
Abate-Date	Abatement date for this violation	YYMMDD
Nr-Instances	Number of instances of this violation	
Rec	Related event code	A = Accident C = Complaint I = Imminent Danger R = Related Event V = Variance
Nr-Exposed	Number of employees exposed to hazard violated	
Abate-Complete	Code indicating status of hazard	Codes in Forms Manual
Pen-Contest-Data	Penalty Violation Abatement contest data	
Earl-Cont-Date	Contest date	YYMMDD
Viol-Contest	Violation contest	X = Yes b = No
Pen-Contest	Penalty contest	X = Yes b = No
Abate-Empr-Contest	Abatement Employer Contest	X = Yes b = No
Abate-Empe-contest	Abatement Employee Contest	X = Yes b = No

Field Name	Description	Values/format
Final-Order-Date	Date contest settlement and penalties become receivable	YYMMDD
Events		
PMA	Petition to modify abatement approved	X = Yes b = No
Amended	Citation amended prior to contest	X = Yes b = No
ISA	Informal settlement agreement	X = Yes b = No
Disp-Event	Disposition of contested violation	W = Employer withdrew D = Govt Dismissed L = St Settlement Y = St Decision F = Formal settlement J = ALJ Decision R = Review commission 1 = St Lower court 2 = Appeals court 3 = Supreme court
FTA-Data	Failure-to-abate data	
FTA-Insp-Nr	Activity number of inspection on which FTA was issued	
FTA-Penalty	Additional penalties issued for FTA	
FTA-Issuance-Date	Issue date for FTA	
FTA-Contest	FTA violation contest date	YYMMDD
FTA-Amended	FTA citation amended prior to contest	X = Yes b = No
FTA-ISA	Informal Settlement Agreement for FTA violation	X = Yes b = No
FTA-Disp-Event	Disposition of contested FTA violation	Codes in Forms Manual
Seg-Event	History Information Block	24 characters
Hist-Type	Defines data contained in block	P = Pen-Hist F = FTA-Hist
Hist-Cit-ID		
Pen-History		
Pen-Hist-Date		YYMMDD packed
Pen-Hist-Event		
Pen-Hist-Penalty		Packed - 5 - 2 decimals
Pen-Hist-Abate		YYMMDD packed
Pen-Hist-Vtype		
Pen-Hist-Action		
FTA-History		

Field Name	Description	Values/format
FTA-Hist-Insp-Nr		binary
FTA-Hist-Date		YYMMDD packed
FTA-Hist-Event		
FTA-Hist-Penalty		Packed - 5 - 2 decimals
FTA-Hist-Action		
Seg-Hazsub	Hazardous Substance Block	27 characters
Haz-Key	Viol-Key for violation these substances relate	
Hazsub1-Hazsub5	Up to 5 hazardous substances with exposure levels above the allowable limits that resulted in the violation. If more than 5 are involved then the 5 with the highest severity	4 character OSHA substance codes; Codes are listed in Appendix E Forms Manual
Seg-Accident	Accident block	49 characters
Name	Name of the victim	
Rel-Insp-Nr	Related inspection activity number	
Sex	Gender of victim	M = Male F = Female
Age	Age of victim	
Degree-of-Inj	Extent of injury	1 = Fatality 2 = Hospitalized Injury 3 = Nonhospitalized injury
Nature-of-Inj	Nature of type of injury	Codes are listed in Appendix G Forms Manual
Part-of-Body	Part of body injured	Codes are listed in Appendix G Forms Manual
Src-of-Inj	Source of injury	Codes are listed in Appendix G Forms Manual
Event-Type	Event type	Codes are listed in Appendix G Forms Manual
Env-Factor	Contributing environmental factor	Codes are listed in Appendix G Forms Manual
Hum-Factor	Contributing human factor	Codes are listed in Appendix G Forms Manual
Task-Assigned	Task working on at time of incident	A=Regularly assigned task B=Task other than regularly assigned
Hazsub	Hazardous substance contributing to incident	Codes are listed in Appendix E Forms Manual
Occ-Code	Occupation Code for 18b state use only	Codes are listed in Appendix H Forms Manual

Field Name	Description	Values/format
Seg-Adm-Pay	Admin/Pay Segment Administrative and payment data blocks have a common description and length. Both block types can be present in a record. The value of the field AP-TYPE determines the content of the block. Alternate field names are given to be used dependent on the type of data present.	15 characters
	Administrative segment (from OSHA-167I)	
AP-Type	Type of Administrative payment data	1-9 = Dunning letter I = Interest fees D = Delinquent fees
Adm-Info	Administrative cost data	
Adm-Date	Action date for activity	YYMMDD
Adm-Amt	Administrative assessment applied to record	
	Payment Segment (from OSHA-163)	
AP-Type	Type of payment	P = Payment R = Refund U = Unhonored check C = Court
Pay-Info	Payment Collection data	
Pay-Date	Date payment received and form completed	YYMMDD
Pay-Pen-Amt	Amount of payment received for assessed penalties	
Pay-FTA-Amt	Amount of payment received for failure-to-abate charge	

OSHA Instruction ADM 1-1, 12B
December 29, 1989
Office of Management Data Systems

Appendix E

INVESTIGATION SUMMARY CODES

Table E-1

NATURE OF INJURY CODES

01	Amputation	12	Fracture
02	Asphyxia	13	Freezing Frost Bite
03	Bruise/Contusion/Abrasion	14	Hearing Loss
04	Burn (Chemical)	15	Heat Exhaustion
05	Burn/Scald (Heat)	16	Hernia
06	Concussion	17	Poisoning (Systemic)
07	Cut/Laceration	18	Puncture
08	Dermatitis	19	Radiation Effects
09	Dislocation	20	Strain/Sprain
10	Electric Shock	21	Other
11	Foreign Body in Eye	22	Cancer

Table E-2

PART OF BODY CODES

01	Abdomen	17	Lower Arm(s)
02	Arm(s) Multiple	18	Lower Leg(s)
03	Back	19	Multiple
04	Body System	20	Neck
05	Chest	21	Shoulders
06	Ear(s)	22	Upper Arm(s)
07	Elbows(s)	23	Upper Leg(s)
08	Eye(s)	24	Wrist(s)
09	Face	25	Blood
10	Finger(s)	26	Kidney
11	Foot/Feet/Toe(s)/Ankle(s)	27	Liver
12	Hand(s)	28	Lung
13	Head	29	Nervous System
14	Hip (s)	30	Reproductive System
15	Knee(s)	31	Other Body System
16	Leg(s)		

Table E-3

SOURCE OF INJURY CODES

01	Aircraft	24	Hoisting Apparatus
02	Air Pressure	25	Ladder
03	Animal/Insect/Bird/Reptile/Fish	26	Machine
04	Boat	27	Materials Handling Equipment
05	Bodily Motion	28	Metal Products
06	Boiler/Pressure	29	Motor Vehicle (Highway)
07	Boxes/Barrels, etc.	30	Motor Vehicle (Industrial)
08	Buildings/Structures	31	Motorcycle
09	Chemical Liquids/Vapors	32	Windstorm/Lighting, etc
10	Cleaning Compound	33	Firearm
11	Cold (Environmental/Mechanical)	34	Person
12	Dirt/Sand/Stone	35	Petroleum Products
13	Drugs/Alcohol	36	Pump/Prime Mower
14	Dust/Particles/Chips	37	Radiation
15	Electrical Apparatus/Wiring	38	Train/Railroad Equipment
16	Fire/Smoke	39	Vegetation
17	Food	40	Waste Products
18	Furniture/Furnishings	41	Water
19	Gases	42	Working Surface
20	Glass	43	Other
21	Hand Tool (Powered)	44	Fume
22	Hand Tool (Manual)	45	Mists
23	Heat (Environmental/ Mechanical)	46	Vibration
		47	Noise
		48	Biological Agent

Table E-4

EVENT TYPE CODES

01	Struck By	09	Ingestion
02	Caught In or Between	10	Absorption
03	Bite/Sting/Scratch	11	Repeated Motion/ Pressure
04	Fall (Same Level)	12	Cardio-Vascular/ Respiratory System Failure
05	Fall (From Elevation)		
06	Struck Against	13	Shock
07	Rubbed/Abraded	14	Other
08	Inhalation		

Table E-5

ENVIRONMENTAL FACTOR CODES

01	Pinch Point Action
02	Catch Point/Puncture Action
03	Shear Point Action
04	Squeeze Point Action
05	Flying object Action
06	Overhead Moving and/or Falling Object Action
07	Gas/Vapor/Mist/Fume/Smoke/Dust/Condition
08	Materials Handling Equipment/Method
09	Chemical Action/Reaction Exposure
10	Flammable Liquid/Solid Exposure
11	Temperature Above or Below Tolerance Level
12	Radiation Condition
13	Working Surface/Facility Layout Condition
14	Illumination
15	Overpressure/Underpressure Condition
16	Sound Level
17	Weather/Earthquake, etc. Condition
18	Other

Table E-6

HUMAN FACTOR CODES

01	Misjudgment of Hazardous Situation
04	Malfunction of Procedure for Securing Operation or Warning of Hazardous Situation
05	Distracting Actions by Others
06	Equipment in Use Not Appropriate for Operation
07	Malfunction of Neuro-Muscular System
08	Malfunction of Perception System with Respect to Task Environment
09	Safety Devices Removed or Inoperative
10	Operational Position not Appropriate for Task
11	Procedure for Handling Materials Not Appropriate for Task
12	Defective Equipment: Knowingly Used
13	Malfunction of Procedure for Lock-Out or Tag-Out
14	Other
15	Insufficient or Lack of Housekeeping Program
16	Insufficient or Lack of Exposure or Biological Monitoring
17	Insufficient or Lack of Engineering Controls
18	Insufficient or Lack of Written Work Practices Program
19	Insufficient or Lack of Respiratory Protection
20	Insufficient or Lack of Protective Work Clothing and Equipment

HSEES Datafield Dictionary

Appendix B
Datafield Dictionaries of Federal Release Databases

IRIS Datafield Dictionary

TABLE	C O L U M N	TYPE	I R I S	EXPLANATION
ADDRESS	ADDRDATE	DATE (7)		Only used in continuous release reports
ADDRESS	ADDRESS	CHAR(25)	Address	Address of the caller or discharger line 1
ADDRESS	ADDRESSTYPE	CHAR(1)	hidden field	'A'-Additional Information 'D'-Discharger Information 'C'-Caller Information
ADDRESS	AREACODE1	NUMBER(3)		Areacode of the caller or discharger line 1
ADDRESS	AREACODE2	NUMBER(3)		Areacode of the caller or discharger line 2
ADDRESS	CITY	CHAR(20)	City	City of the caller or discharger
ADDRESS	COMPANYNAME	CHAR(25)	Company	Company of the caller or discharger
ADDRESS	CONFIDENTIAL	CHAR(1)	Confidential (Y/N)	Reporting Party confidentiality
ADDRESS	COUNTY	CHAR(25)	City	City of the caller or discharger
ADDRESS	EXTENSION1&2	CHAR(4)		Phone number extension
ADDRESS	FIRSTNAME	CHAR(16)	First Name	First Name of the caller or discharger
ADDRESS	HAZMAT	CHAR(1)	Where Materials Released (Y/N)?	Were Materials Released
ADDRESS	LASTNAME	CHAR(25)	Last Name	Last Name of the caller or discharger
ADDRESS	MI	CHAR(1)	MI	Middle Initial
ADDRESS	ORGANIZATIONTYPE	CHAR(2)	Org Type	Type of Organization of the caller or discharger
ADDRESS	PHONENUMBER1&2	NUMBER(7)	Phone	Phone number for the caller or discharger
ADDRESS	RESPONSIBLEPARTY	CHAR(1)	Calling for Responsible Party (Y/N)?	Is the calling on behalf the responsible party?
ADDRESS	SEQNOS	NUMBER(7)	Call#	NRC report number
ADDRESS	STATE	CHAR(2)	State	State of the caller or discharger
ADDRESS	STREET 1	CHAR(25)		Address of caller or discharger line 2
ADDRESS	STREET2	CHAR(25)		Address of caller or discharger line 3
ADDRESS	TITLE	CHAR(20)	Postion	The postion of the caller or discharger
ADDRESS	ZIP	CHAR(5)	Zip	Zip code of the caller or discharger
ADDRESS	ZIPEXT	CHAR(4)		Zip code extension

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
ADDITIONALINFO ADDITIONALINFO	SEQNOS ADDINFOTYPE	NUMBER(7) CHAR(1)	Call# hidden field	NRC report number 'A'-Additional Info 'D'-Source/Cause 'R'-Remedial Action
ADDITIONALINFO	SPECIFIC	CHAR(71)	Source and/or Cause of Incident Actions Taken to Correct or Mitigate Incident Any Information About the Incident not Recorded Elsewhere in the Report	Line 1
ADDITIONALINFO	SPECIFIC2	CHAR(71)	Source and/or Cause of Incident Actions Taken to Correct or Mitigate Incident Any Information About the Incident not Recorded Elsewhere in the Report	Line 2

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
CALLERNOTIFY CALLERNOTIFY	SEQNOS EPA	NUMBER(7) CHAR(1)	EPA	NRC call number Caller notified EPA organization
CALLERNOTIFY	STATE	CHAR(1)	STATE	Caller notified State organization
CALLERNOTIFY	USCG	CHAR(1)	USCG	Caller notified a USCG organization
CALLERNOTIFY	OTHER	CHAR(1)	OTHER	Caller notified an organization not listed above
CALLERNOTIFY	ORGDESC	CHAR(35)	DESC	The description of the organization the caller notified

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
CALLS	SEQNOS	NUMBER(7)		NRC report number
CALLS	CALLTYPE	CHAR(3)		Type of call
CALLS	CALLDATE	DATE	Date/Time Received	The date the call was received
CALLS	STARTTIME	DATE	Date/Time Received	The time the call was received
CALLS	ENDTIME	DATE		The time the call ended
CALLS	MENUNUMBER	NUMBER(2)		The number chosen off the calls menu
CALLS	USERID	CHAR(16)		The NRC watchstander who took the call
CALLS	MARK	CHAR(1)		Whether the report was reviewed or not

TABLE	COLUMN	TYPE	I R I S	EXPLANATION
DERAILED	SEQNOS	NUM.BER(7)		NRC call number
DERAILED	TRAINUMBER	CHAR(10)	Train Number	The train number of the derailed cars
DERAILED	CARNUMBER	CHAR(10)	Car	The derailed car number
DERAILED	CARGO	CHAR(50)	c a r g o	The derailed cargo

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
IMPACT	SEQNOS	NUMBER(7)	Call#	NRC call
IMPACT	AIRCLOSE	CHAR(1)	Any Air Corridor Closed	Air corridor closure
IMPACT	ROADCLOSE	CHAR(1)	Any Roads Closed	Road closure
IMPACT	EVACUATIONS	CHAR(1)	Were there Evacuations	Evacuations
IMPACT	NOOFEVACUATIONS	NUMBER(5)	Number Evacuated	Number of
IMPACT	DAMAGES	CHAR(1)	Damage (Y/N/U)?	Damages
IMPACT	DOLLARAMOUNT	NUMBER(9,2)	Dollars	Cost of
IMPACT	NOOFINJURIES	NUMBER(3)	Number of	Injuries
IMPACT	NOOFFATALITIES	NUMBER(3)	Number of Fatalities?	Fatalities
IMPACT	MEDIUMTYPE	CHAR(1)	Affected	discharge affected
IMPACT	MEDIUMDESCRIPTION	CHAR(41)	More about Medium	Information about the Affected

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
INCIDENT	SEQNOS	NUMBER(7)		NRC report number
INCIDENT	INCIDENTDATE	DATE	D a t e	Date of the incident
INCIDENT	INCIDENTDTG	CHAR(1)	D T G	DATE TIME GROUP
INCIDENT	INCIDENTTYPE	CHAR(2)	Type	Type of Incident
INCIDENT	OFFICIALNUMBER	CHAR(20)	Vessel or Vehicle Number	Vessel or Vehicle Number
INCIDENT	C A U S E	CHAR(1)	cause	Cause of the Incident
INCIDENT	FRAHOT	CHAR(1)	RRHot(Y/N)?	Did the call come over the RR hot line
INCIDENT	RELEASETYPE	CHAR(1)	Continuous Release type	For continuous release reports
INCIDENT	RELEASENUMBER	NUMBER(7)	Continuous Release #	NRC original number for the continuous release report
INCIDENT	S D A Y	CHAR(2)		Incident day
INCIDENT	S M O N	CHAR(3)		Incident month
INCIDENT	S Y R	CHAR(2)		Incident year
INCIDENT	S M I	CHAR(2)		Incident minute
INCIDENT	S H R	CHAR(2)		Incident hour

TABLE	COLUMN	TYPE	I R I S	EXPLANATION
LOCATION	SEQNOS	NUMBER		NRC report number
LOCATION	CITYDISTANCE	NUMBER(4,1)	Distance from City	
LOCATION	CITYDISTANCEUNITS	CHAR(2)	Units	
LOCATION	CITYDIRECTION	CHAR(3)	Direction from City	
LOCATION	MILEPOST	CHAR(5)	Milepost	
LOCATION	LATITUDEDEG	NUMBER(2)	Latitude Degrees	
LOCATION	LATITUDEMINUTES	NUMBER(2)	Minutes	
LOCATION	LATITUDESECONDS	NUMBER(2)	Seconds	
LOCATION	LONGITUDEDEG	NUMBER(3)	Longitude Degrees	
LOCATION	LONGITUDEMINUTES	NUMBER(2)	Minutes	
LOCATION	LONGITUDESECONDS	NUMBER(2)	Seconds	
LOCATION	LATQ	CHAR(1)	Latitude Quadrant	
LOCATION	LONQ	CHAR(1)	Longitude Quadrant	
LOCATION	FIELDID	CHAR(25)	Area ID	
LOCATION	BLOCKID	CHAR(5)	Block ID	
LOCATION	ADDRESS	CHAR(25)	Incident Address/Location Line 1	
LOCATION	STREET 1	CHAR(25)	Incident Address/Location Line 2	
LOCATION	STREET 2	CHAR(25)	Incident Address/Location Line 3	
LOCATION	CITY	CHAR(20)	Nearest City	
LOCATION	COUNTY	CHAR(25)	County	
LOCATION	STATE	CHAR(2)	State	
LOCATION	ZIP	CHAR(5)	Zip	
LOCATION	ZIPEXT	CHAR(4)		
LOCATION	SECTION	CHAR(10)	Section	
LOCATION	TOWNSHIP	CHAR(20)	Township	
LOCATION	RANGE	CHAR(10)	Range	
LOCATION	CONTAINERTYPE	CHAR(1)	Container Type	
LOCATION	TANKCAPACITY	NUMBER(8)	Tank Cap.	
LOCATION	TANKUNITS	CHAR(3)	Units	
LOCATION	FACILITYCAPACITY	NUMBER(8)	Facility Cap.	
LOCATION	FACILITYUNITS	CHAR(3)	Units	

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
MATERIALINVOLVED MATERIALINVOLVED	SEQNOS CHRISCODE	NUMBER(7) CHAR(3)	Call# CHRIS Code	NRC report number Chemical Abbreviation Code
MATERIALINVOLVED	SPILLEDQTY	NUMBER(8,2)	Released Quantity	Amount of material released
MATERIALINVOLVED	SPILLEDUNIT	CHAR(3)	Unit of Measure	Unit of Measure used for released material
MATERIALINVOLVED	WATERQTY	NUMBER(8,2)	Quantity in Water	Amount of material released that went into water
MATERIALINVOLVED	WATERUNIT	CHAR(3)	Unit of Measure	Unit of Measure used for quantity in water
MATERIALINVOLVED MATERIALINVOLVED	MATERIALNAME CASNUMBER	CHAR(50) CHAR(7)	Released Material	Released Material Chemical identification code
MATERIALINVOLVED	DOTNUMBER	CHAR(7)		Chemical identification code

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
NOTIFICATION	SEQNOS	NUMBER(7)	Call#	NRC report number
NOTIFICATION	DATENTERED	DATE		Date of Notification
NOTIFICATION	TIMENTERED	DATE		Time of Notification
NOTIFICATION	UNITID	CHAR(7)		Abbreviation of the organizations the NRC notifies
NOTIFICATION	PERSONOTIFIED	CHAR(25)		Person the NRC notified
NOTIFICATION	AREACODECALLED	NUMBER(3)		Areacode of the notification phone number
NOTIFICATION	PHONENUMBERCALLED	NUMBER(7)		Phone number of the notification
NOTIFICATION	ORGANIZATION	CHAR(35)		Organization the NRC notified
NOTIFICATION	TIMECALLED	DATE		NRC watchstander who made the notification
NOTIFICATION	USERID	CHAR(16)		
NOTIFICATION	LASTNAME	CHAR(25)		Lastname of the NRC watchstander who made the notification
NOTIFICATION	CASENUMBER	CHAR(5)		Classify types of notifications
NOTIFICATION	NOTIFICATIONTYPE	CHAR(1)		

TABLE	COLUMN	TYPE	IRIS	EXPLANATION
RAILROAD	SEQNOS	NUMBER(7)	Call#	NRC report number
RAILROAD	RAILROADNAME	CHAR(25)	Name of Railroad	Name of the Railroad involved
RAILROAD	TRAINNUMBER	CHAR(10)	Train Number	
RAILROAD	TRAINDERAILED	CHAR(1)	Was Train Derailed?(Y/N/U)	
RAILROAD	NOOFCARSDERAILED	NUMBER(3)	Number of Cars Derailed	Number of cars derailed

ERNS Datafield Dictionary

Emergency Response Notification System Data Dictionary



April 14, 1994

WHAT IS ERNS?

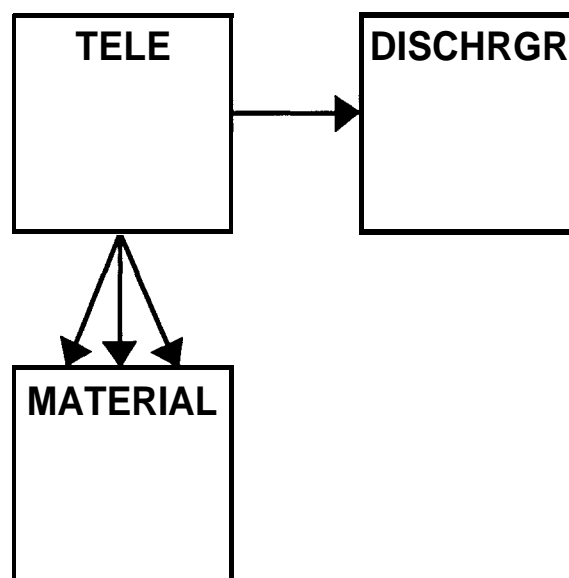
The Emergency Response Notification System (ERNS) is a computer data base containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center (NRC), the ten EPA Regions, or the U.S. Coast Guard. The initial notification data may be updated with information from various Federal, State, and local response authorities as appropriate. ERNS data can be used to analyze release notifications, support emergency planning efforts, and to assist decision makers in developing spill prevention programs.

DATA LIMITATIONS

Because ERNS is a data base of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after an incident, when exact details are often unknown. These data are usually not updated unless an EPA Region is involved in the response action. In addition, there may be multiple reports for a single incident. (This occurs when the caller makes a second report to update original data, or a private observer reports a release that has already been reported by the facility.) Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information) occasionally limit the quality of some data.

STRUCTURE OF THE ERNS DATA BASE

The structure of the ERNS data base was recently upgraded to a relational structure. There are three data sets which contain information regarding the release reports, TELE, MATERIAL and DISCHRGR. The TELE data set contains general information about the release. For each report to ERNS there is an initial record in the TELE data set. When these data are updated, a "most up to date" record is then added. Information about the discharger and the material released are located in the DISCHRGR and MATERIAL data sets respectively. Each TELE record is associated with as many MATERIAL records as there were materials reported.



HOW TO USE THE DATA DICTIONARY

The data dictionary is a complete list of the available fields in ERNS at the time of the most recent upgrade to the ERNS system, which occurred in January 1994. Provided below is a brief description of the type of information that is available in the data dictionary.

Field Name	-	This column provides the name of the field as it appears in the ERNS data base.
Abbreviation	-	This column provides the abbreviation that is used and accepted by the ERNS system.
Definition	-	This column provides an explanation of the information that may be found within that field. In addition, this column may specify the location of the data field and the dates that the field is present in the ERNS data base. It should be assumed that the field is located in the TELE data set unless otherwise stated.
Data Code	-	This column contains a one-letter code which indicates the data collecting organizations that use the field:

T = Volpe National Transportation System Center

N = National Response Center

R = One of the ten U.S. EPA Regions

COMMONLY USED ACRONYMS IN THE DATA DICTIONARY

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	Department of Transportation
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
HMIS	Hazardous Material Information System
NRC	National Response Center
OSC	On-Scene Coordinator
PRP	Potentially Responsible Party
RQ	Reportable Quantity
USCG	United States Coast Guard
VNTSC	Volpe National Transportation System Center

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
ACTION_MEMO_APPROVED	ACTMEMAPPR	Indicates if an action memo was approved. An action memo is required prior to expenditure of Superfund money. (1992-present)	TR
ACTION_MEMO_DATE	ACTMEMDATE	The action memo approval date. An action memo is required prior to expenditure of Super-fund money. (1992-present)	TR
ACTION_TEXT	ATEXT	Description of response actions taken as a result of a notification. (1987-present)	TNR
AGENCIES_NOTIFIED_BY_NRC	AGENC	Agencies notified of the release by the NRC. (1987-present)	TN
BLOCK_ID	BID	Part of a grid system of areas and blocks used in the Gulf of Mexico by the United States Coast Guard (USCG) to determine platform locations as well as sheen sightings (used in conjunction with FIELD_ID). (1991-present)	TN
CALLER_NOTIFIED	CNOTIF	Authorities that the individual reporting the release notified. (1987-present)	TNR
CALLER_SAME_AS_DISCHARGER	SPLR	Indicates whether the person reporting the release is the person responsible for the release. (1987-present)	T
CAS	CAS	The Chemical Abstracts Service (CAS) Registry Number for the substance released. ERNS stores information on up to three substances for each report. This field is located in the MATERIAL data set. (1987-present)	TR
CAUSE_CODE	CAUSE_CODE	Code used to describe the cause of the incident. (1992-present) AA = Overturning AB = Collision AC = Fire AD = Explosion AE = Grounding AF = Sinking AG = Derailment AH = Pipeline Blowout BA = Broken Containers BB = Tank or Container BC = Valve BD = Flange BE = Hose BF = Fitting BG = Alarm BH = Automatic Shutoff	TR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
CAUSE_CODE (cont.)	CAUSE_CODE	BI = Dike BJ = Pump BK = Hull BL = Well Head BM = Flow Line BN = Pipeline BO = Manifold BP = Structural BQ = Weld BR = Container Leak BS = Lact Upset BT = Treater Upset BU = Power Failure BV = Power Oil Line CA = Improper Maintenance CB = Improper Operation CC = Improper Hose Connection CD = Improper Secured Flange CE = Improper Storage/Handling CF = Improper Design CG = Improper Training CH = Improper Communication CI = Improper Valve Handling CJ = Overflow CK = Failure to Shutdown DA = Flooding DB = Freezing DC = Wind DD = Natural Seepage DE = Rain or Snow DF = Lightning EA = Improper Disposal EB = Deliberate FA = Unknown GA = Vandalism GB = Sabotage	TR
CG_UNIT	CGU	The USCG unit that received the release notification from the NRC. (1987-present)	TN
CHEMID	CID	Volpe National Transportation System Center (VNTSC) generated identifier used to speed cross referencing to the Agency chemical data base. This field is located in the MATERIAL data set. (1987-present)	T
CHEMTREC	CHEMTREC	Indicates if the Chemical Transportation Emergency Center (CHEMTREC), an emergency information center sponsored by the chemical industry, was notified of the release by the agency	T

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		receiving the release notification. (1987-present)	
CHRIS_CODE	CC	The Chemical Hazards Response Information System (CHRIS) code of the substance released. This field is located in the MATERIAL data set. (1987-present)	TNR
CITY_UNITS	CUNITS	The units of distance used in the "DISTANCE_FROM_CITY" field. (1991-present) KM = Kilometers MI = Miles	TN
COMPASS_HEADING	COMP	The location of the nearest city to the release, expressed in compass directions.(1991-present)	T
CONFIDENTIAL	CONFID	Indicates if the caller information is confidential. (1987-present)	TNR
CONTAINER_TYPE	CTYPE	Describes the type of container from which the release occurred. (1991-present) A = Above Ground Container B = Below Ground Container U = Unknown	TN
CR_NUMBER	CR_NO	The continuous release number associated with this report, if applicable. An initial CR number is assigned by the NRC. See CR_TYPE. (1990-present)	TNR
CR_TYPE	CR_TYPE	The type of continuous release being reported. A continuous release is one that occurs without interruption or abatement or that is routine, anticipated, and intermittent and incidental to normal operations or treatment processes. Once an initial continuous release is reported only certain types of changes are required to be reported. See CERCLA section 103(f)(2). (1990-present) A = Annual Change B = Baseline Change C = Change in Source or Composition I = Initial Report of Continuous Release S = Statistically Significant Increase in Release	TNR
DAMAGES	DAM	Indicates if damages were incurred as a result of the release. (1987-present)	TNR
DATE_CANCEL_LETTER	DCANL	The date on the cancellation letter. This letter is sent by the individual responsible for the release, and states that the release did not meet or exceed mandated reporting requirements. (1987-present)	T
DATE_HARDCOPY	DHC	The date the hard copy of the release report was	T

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		received by VNTSC. (1987-present)	
DATE_SPILL	DASPI	The date the release was reported to have occurred. TNR (1987-present)	
DC	DC	Used by VNTSC to indicate the date that the latest change to the report was made by the U.S. EPA Region. This field is located in the MATERIAL and DISCHRGR data sets. (1987-present)	T
DD	DD	The date that the report was deleted from the system. This field is located in the MATERIAL and DISCHRGR data sets. (1987-present)	
DE	DE	The date that the report was entered into the system. This field is located in the MATERIAL and DISCHRGR data sets. (1987-present)	T
DEATHS	DEA	The number of fatalities resulting from the release. TNR These fatalities may either be the result of the accident causing the release, or from exposure to the substance released. (1987-present)	
DESCRIPTION_TEXT	DTEXT	Descriptive text offering information on the release. (1987-present)	TNR
DISCH_ORG_TYPE	DORGT	The type of organization with which the Potentially Responsible Party (PRP) is affiliated. This field is located in the DISCHRGR data set. (1987-present) FG = Federal Government LG = Local Government PC = Private Citizen PE = Private Enterprise PU = Public Utility SG = State Government UN = Unknown.	TNR
DISCHARGER_ADDRESS	DADD	The street address where the PRP is located. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCHARGER_CITY	DCITY	The city where the PRP is located. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCHARGER_COUNTY	DCOUNTY	The county where the PRP is located. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCHARGER_ID	DID	A unique number assigned to each report used in mapping reports to the discharger data set. This field is located in the DISCHRGR data set. (1992-present)	T
DISCHARGER_NAME	DNAME	The name of the person considered to be the PRP for the release. This field is located in the	TNR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		DISCHRGR data set. (1987-present)	
DISCHARGER_ORG	DORG	The name of the organization considered to be the PRP for the release. This field is located in the DISCHRGR data set. (1987-present)	TN
DISCHARGER_PHONE	DPH(1,2)	The telephone number, including area code, of the PRP. A single report may have up to two telephone numbers stored in ERNS. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCHARGER_STATE	DST	The State where the PRP is located. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCHARGER_ZIP	DZIP	The five- or nine-digit postal zip code of the area where the PRP is located. This field is located in the DISCHRGR data set. (1987-present)	TNR
DISCOVERY_DATE	DDATE	The date the reporting individual discovered the release. (1992-present)	TR
DISTANCE_FROM_CITY	DIST	The distance of the release from the nearest city. (1991-present)	TN
DOT_FAA	DOT_FAA	Indicates if the Federal Aviation Administration (FAA) was notified of the release by the agency receiving the release notification. (1987-present)	TN
DOT_FRA	DOT_FRA	Indicates if the Federal Railway Administration (FRA) was notified of the release by the agency receiving the release notification. (1987-present)	TN
DOT_OMCS	DOT_OMCS	Indicates if the Office of Motor Carrier Safety (OMCS) was notified of the release by the agency receiving the release notification. (1987-present)	TN
DUMPING	DUMP	Indicates if the release was caused by dumping. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER-CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	TNR
DUN_BRADSTREET	DUNS	The Dun and Bradstreet number assigned to the organization responsible for the release. (1992-present)	TR
DUTY_OFFICER	DO	The name of the NRC duty officer who received the report. (1987-present)	TNR
ENFORCEMENT_ACTIVITY_CODES	ENFOR_ACT	The enforcement activity codes associated with the incident. A single report may have up to 5 codes stored in ERNS. (1992-present)	TR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		AC = Administrative Order on Consent AN = RD/RA Negotiations AV = Administrative/Voluntary Cost Recovery CA = Consent Agreement CB = Claim on Bankruptcy Proceeding CD = Consent Decree CL = Section 106/107 Litigation DD = Issue Cost Recovery Decision Document Not to Sue DL = Issue Demand Letters FA = Federal Memorandum of Agreement FC = Federal Compliance Agreement FI = Federal Interagency Agreement FN = RI/FS Negotiations FU = Federal Memorandum of Understanding IL = Issue Information Request Letters (104E) JG = Judgement NB = Non-binding Allocation of Responsibility NE = Cost Recovery Negotiations NI = Issue Notice Letters NS = NPL RP Search NW=Issue Notice of s122 Waiver PC = Prepare Cost Documentation Package PI = Preliminary Injunction	
ENFORCEMENT_ACTIVITY_CODES (cont.)	ENFOR_ACT	RN = Removal Negotiations RP = Non-NPL Removal RP Search SN = Issue Special Notice SV = Section 107 Litigation SX = Section 106 Litigation TE = Temporary Restraining Order UA = Unilateral Administrative Order	TR
EPA	EPA	Indicates if the U.S. EPA was notified of the release by the person reporting the release. (1987-present)	TN
EPA_REGION	EPAR	The U.S. EPA Region which (1) directly received the initial report, or (2) was notified of the incident by the NRC. (1987-present)	TN
EPA_REPORTING_NAME	RNAME	The name of the agency which was first to receive the report. (1993-present)	TR
EPA_REPORTING_SOURCE	RSOURCE	The type of agency from which the report was received. (1993-present)	TR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		C = USCG E = EPA Region F = Other Federal agency M = News media N = NRC \$ = State agency	
EPA_UNIQUE_IDENTIFIER	TRANSNUMB	A unique number generated by the system to identify the report. This field is hidden from the user. (1987-present)	T R
EQUIP_FAILURE	EQUIP	Indicates if the release was caused by equipment failure. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	T N R
ER_ACTVTY	ER_ACTVTY	Indicates if the emergency response activity was defined by the Superfund Comprehensive Accomplishments Plan (SCAP). (1992-present)	T R
ERA_DATE	ERA_DATE	The date emergency response activity began. (1992-present)	T R
ERA_OSC	ERA_OSC	The name of the OSC who responded to the release. (1992-present)	TR
ERROR_CODE	ERRC	An internal code used by Hazardous Material Information System (HMIS) to indicate a failure in either uploading or translating the data. (1987-present)	T
EVACUATIONS	EVAC	Indicates if people were evacuated as a result of the release. (1987-present)	T N R
FACILITY_CAPACITY	FCAP	The capacity of the facility involved in the release. (1991-present)	T N
FACILITY_UNITS	FUNITS	The units of measure used in the "FACILITY_CAPACITY" field. (1991-present) BBL = Barrels GAL = Gallons LBS = Pounds TON = Tons UNK = Unknown	T N
FIELD_ID	FID	Part of a grid system of areas and blocks used in the Gulf of Mexico by the USCG to determine platform locations as well as sheen sightings, (used in conjunction with BLOCK_ID). (1991-present)	T N

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
FLIGHT_PATTERN	FLIGHT	Indicates if the operational flight pattern or routine of an aircraft was altered because of the release. (1992-present)	TN
FOLLOWNUM	FOLLOWNUM	The number of times that the report has been updated. This number is hidden to the user. (1993-present)	TR
FOLLOWUP_CODES	FOLLOWUP	The type of update that was made, if an update has been made to the original report (e.g., typographical correction, data correction, or information resulting from an EPA response action). (1993-present)	TR
ID	ID	A unique sequential number assigned by the computer to each report in the material data set. This field is located in the MATERIAL data set. (1987-present)	T
INCIDENT_STAT	ISTAT	Codes detailing the incident status. (1992-present) CL = Classic Incident CR = Critical Incident FS = Field Simulation NA = No Further Action NC = Non-critical Incident RA = Remedial Action	TR
INIT_RPT	INIT	Indicates if the release report in ERNS is an initial report. (1992-present)	T
INJURIES	INJ	The number of injuries resulting from the release. These injuries may either be the result of the accident causing the release, or from exposure to the substances released. (1987-present)	TNR
JURISDICTION	JURI	The U.S. EPA Region that has jurisdiction if the release occurred in an area overlapping two U.S. EPA Regions. (1987-present)	T
LATITUDE_DEGREES	LATD	The geographic location of the release as expressed in degrees latitude. (1990-present)	TN
LATITUDE_MINUTES	LATM	The geographic location of the release as expressed in minutes latitude. (1990-present)	TN
LATITUDE_SECONDS	LATS	The geographic location of the release as expressed in seconds latitude. (1990-present)	TN
LOCATION_TEXT	LTEXT	Miscellaneous location information on the release. (1987-present)	TNR
LONGITUDE_DEGREES	LONGD	The geographic location of the release, as expressed	TN

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		in degrees longitude. (1990-present)	
LONGITUDE_MINUTES	LONGM	The geographic location of the release, as expressed in minutes longitude. (1990-present)	TN
LONGITUDE_SECONDS	LONGS	The geographic location of the release, as expressed in seconds longitude. (1990-present)	TN
MATERIALS_RELEASED	MATS	Indicates if any substances were actually released. This field is located in the MATERIAL data set. (1991-present)	TN
MATERIALS_SPILLED	MATSP	The name of the substance or substances released. This field is located in the MATERIAL data set. (1987-present)	TNR
MCASE_ID	MCASE_ID	The multiple case identification number in the U.S. EPA Region. (1992-present)	TR
MED_AIR	MAIR	Indicates if the release affected the air. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TNR
MED_FACILITY	MFAC	Indicates if the release is contained within the fixed facility. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TR
MED_GROUNDWATER	MGRD	Indicates if the release affected groundwater. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TNR
MED_LAND	MLAND	Indicates if the release affected land. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TNR
MED_OTHER	MOTH	Indicates if media, other than those listed specifically in ERNS, were affected. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TR
MED_WATER	MWATER	Indicates if the release affected water. This field is one of a group of six logical medium fields in ERNS. (1987-present)	TNR
MEDCODE	MEDCODE	The code describing the medium to which the substance(s) was released. (1992-present) AA = Explosion AB = Evaporation AC = Sublimation AD = Spray BA = Ground BB = Roadway BC = Parking Lot BD = Concrete	TR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		BE = Beach Water CA = Stream CB = River CC = Sewer CD=Lake CE = Pond CF = Ditch CG = Reservoir CH = Canal CI = Ocean CJ = Estuary CK = Inlet CL = Creek CM = Irrigation DA = Well DB = Aquifer EA = Within Building EB = Within Processing System EC = On Concrete or Asphalt ED = On Ground	
MILEPOST	MILEPOST	The highway or waterway mile marker number where the release occurred. (1991-present)	TN
MISC_ATSDR	MISC_ATSDR	Indicates if the Agency for Toxic Substances and Disease Registry (ATSDR) was notified of the release by the agency receiving the release notification. (1992-present)	TN
MISC_DOD	MISC_DOD	Indicates if the Department of Defense (DOD) was notified of the release by the agency receiving the release notification. (1987-present)	TN
MISC_DOE	MISC_DOE	Indicates if the Department of Energy (DOE) was notified of the release by the agency receiving the release notification. (1987-present)	TN
MISC_FEMA	MISC_FEMA	Indicates if the Federal Emergency Management Agency (FEMA) was notified of the release by the agency receiving the release notification. (1987-present)	TN
MISC_NRC	MISC_NRC	Indicates if the Nuclear Regulatory Commission (NRC) was notified of the release by the agency receiving the release notification. (1987-present)	TN
MISC_OSHA	MISC_OSHA	Indicates if the Occupational Safety and Health Administration (OSHA) was notified of the release by the agency receiving the release notification. (1992-present)	TN
MISCELLANEOUS_TEXT	MTEXT	Miscellaneous information on the release. (1987-	TNR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		present)	
MOST_UP_TO_DATE	MUD	Indicates if the report is the most recently updated version. (1992-present)	T
MREPT_CNT	MREPT_CNT	Count of the multiple reports received for a release. (1992-present)	TR
MULTIPLE	MULT	Indicates if a particular report is part of a multiple report group. (1992-present)	TR
MULTIPLE_CASE_NO	MCASE	The Regional case number initially assigned by the U.S. EPA Region. (1992-present)	TR
N_DISCHARGER	DIS	Indicates if the person responsible for the release was notified by the agency receiving the release notification. (1987-present)	T
N_OTHER	NOTH	Indicates if agencies, other than those specifically listed in ERNS, were notified of the release by the person reporting the release. (1987-present)	TN
N_UNKNOWN	NUNK	Indicates if it is unknown who was notified of the release. (1987-present)	T
NATURAL_PHENOMENON	NATL	Indicates if the release was caused by a natural phenomenon. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and U N K N O W N . (1987-present)	TNR
NEW_CODE	CODE	An internal code used by HMIS. (1987-present)	T
NO_OF_EVACUATIONS	EVACS	Count of the number of people evacuated because of the release. (1991-present)	TNR
NUM_ON_REGIONAL_REPORT	RN02	The original report number when a report originally received by the NRC is updated by an EPA Region. If a report has not been updated, this field is left blank. See REPORT_NUMBER. (1992-present)	TR
NTSB_HIGH	NTSB_HIGH	Indicates if the National Transportation Safety Board (NTSB) was notified of the release by the agency receiving the release notification. (1992-present)	TN
NTSB_PIPE	NTSB_PIPE	Indicates if the National Transportation Safety Board (NTSB) or the Office of Pipeline Safety was notified of the release by the agency receiving the release notification. (1987-present)	TN

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
NTSB_RAIL	NTSB_RAIL	Indicates if the National Transportation Safety Board (NTSB) or the Federal Railway Administration was notified of the release by the agency receiving the release notification. (1987-present)	TN
ON_SCENE_MONITORING	ONSCEN_MON	Indicates if the release required on-scene monitoring. (1992-present)	TR
OPERATOR_ERROR	OPP	Indicates if the release was caused by operator error. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	TNR
OTHER_CAUSE	OC	Indicates if the release was due to a cause other than those specifically listed in ERNS. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	TNR
OWN_ID	OWN_ID	A unique sequential number, assigned by the computer, to each report. (1987-present)	T
POLLUTION_REPORT_ISSUED_DATE	POL_R_DATE	The date that a pollution report (POLREP) was issued by the Federal OSC, if a POLREP was issued. (1992-present)	TR
PROPERTY_DAMAGE	PROP	The estimated cost of the property damages resulting from the release. (1987-present)	TN
QUA_IN_LBS	LBS	The quantity of the substance released, converted into pounds. This conversion is done so that the substance released can be readily compared to standard RQ levels. This field is located in the MATERIAL data set. (1987-present)	TR
QUAD_LAT	QUAD_LA	The quadrant of latitude where the release occurred. (1990-present)	TN
QUAD_LONG	QUAD_LO	The quadrant of longitude where the release occurred. (1990-present)	TN
QUANTITY_IN_WATER	QUAW	The amount of the substance released into the water. This field is located in the MATERIAL data set. (1987-present)	TNR
QUANTITY_SPILLED	QUA	The total quantity of the substance released. This field is located in the MATERIAL data set. (1987-	TNR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		present)	
RANGE	RANGE	The geographic survey description used in some states, expressed in geographic range. (1991-present)	TN
RELEASE_INVESTIGATION	REL_INVEST	Indicates if a U.S. EPA release investigation has taken place. (1992-present)	TR
REPORT_DATE	RDATE	The date when the report was received by the NRC or an EPA Region. (1987-present)	TNR
REPORT_NUMBER	RNO	The number assigned by the agency who received the request. (1987-present)	TNR
REPORT_TIME	RTIME	The local time the report was received by the NRC (Eastern Time), or the U.S. EPA Region, based on 24 hour military time. (1987-present)	TNR
REPORTABLE	RPT	Indicates if the spill met the reporting requirements of the DOT's Office of Hazardous Materials Safety (OHMS) for all transportation related reports. (1987-present) E = Enforcement Action Required L = Cancellation Letter Filed W = Met Reporting Requirements	TN
RESPONDING_AGENCY	R_NAME(1,2,3)	The agency responding to the release. ERNS stores information on multiple agencies for each release. A single report may have the names of up to three agencies stored in ERNS. (1989-present)	TR
RESPONDING_AGENCY_CODE	RAGE(1,2,3)	The code used to describe the agency responding to the release. ERNS stores information on multiple agencies for each release. A single report may have up to three agency codes stored in ERNS. (1989-present) D = Discharger E = U.S. EPA F = Federal L = Local O = Other S = State U = Unknown.	TR
ROAD_CLOSURE	ROAD	Indicates if the incident forced one or more major transportation arteries to be closed for one or more hours. (1992-present)	T
RSPA_OHM	RSPA_OHM	Indicates if the Research and Special Programs Administration (RSPA) or the Office of Hazardous Materials (OHM) was notified of the release by the agency receiving the notification. (1987-present)	TN

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
RSPA_OPS	RSPA_OPS	Indicates if the Research and Special Programs Administration (RSPA) or the Office of Pipeline Safety (OPS) was notified of the release by the agency receiving the notification. (1987-present)	TN
SECTION	SECT	The geographic survey description used in some states, as expressed in geographic section. (1991-present)	TN
SOURCE_AGENCY	SRC	Indicates if the NRC, U.S. EPA, or the Marine Safety Information System (MSIS) received the initial report. (1987-present)	T
SOURCE_CODE	SOURCE	Code describing the source of the release. (1992-present) AA = Dry Cargo AB = Liquid Cargo AC = Vehicle Fuel Tank BA = Pick Up BB = Platform BC = Van or Panel BD = Dump BE = Tractor Trailer BF = Tank CA = Airplane Fuel Tank CB = Airplane Cargo DA = Locomotive Fuel Tank DB = Tank Car DC = Flat Car DD = Hopper Car DE = Refrigerator Car DF = Dry Cargo DG = Liquid Cargo EA = Dry Cargo EB = Liquid Cargo EC = Vessel Fuel Tank FA = Private Boat FB = Commercial FC = Tow Board FD = Tug Boat FE = Roro FF = Containerized FG = Tanker FH = Barge GA = Plant GB = Distributor GC = Plant Piping GD = Production GE = Refining GF = Power Plant	TR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		GG = Hazardous Waste Site GH = Transformer GI = Railroad Yard GJ = Consumer GK = Underground Storage Tank GL = Gasoline Station	
SOURCE_CODE (cont.)	SOURCE	GM = Water Treatment HA = Lines HB = Pumping Station HC = Inlet HD = Outlet HE = Valve or Fitting IA = Production IB = Storage IC = Transport (to Shore Only) ID = Equipment JA = Air Release	TR
SPILL_CITY	SCITY	The city where the release occurred. (1987-present)	TNR
SPILL_COUNTY	SCOUNTY	The county where the release occurred. (1987-present)	TNR
SPILL_DTG_TYPE	DTG	A code that indicates if the release occurred, was planned, or was discovered. (1987-present) D = Discovered O = Occurred P = Planned Blank = Other	TN
SPILL_REGION	EPAR2	The U.S. EPA Region where the spill occurred. (1990-present)	T
SPILL_SAME_LOC	SAMEL	Indicates if the release occurred in the same location as the caller or the discharger. (1987-present) A = Caller B = Discharger	TN
SPILL_STATE	SST	The State where the release occurred. (1987-present)	TNR
SPILL_ZIP	SZIP	The five- or nine-digit zip code of the area where the release occurred.	TNR
STATE_LOC	STLOC	Indicates if any State or local authorities were notified of the release by the person reporting the release. (1987-present)	TN
TANK_CAPACITY	TCAP	The capacity of the storage tank involved in the release, if a storage tank was involved. (1991-	TNR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
		present)	
TANK_COUNT	TANK_CT	The number of storage tanks at the facility where the release occurred. (1992-present)	TR
TANK_UNITS	TUNITS	The units of measure used in the "TANK_CAPACITY" field. (1991 -present) BBL = Barrels GAL = Gallons LBS = Pounds TON = Tons UNK = Unknown	TNR
TECHNICAL_DIRECTION_DOCUMENT_NUMBER	TDD_NUMBER	The technical direction document number that corresponds to the work conducted by the Technical Assistance Team (TAT) at the incident location. (1992-present)	TR
TELEPHONE_ASSISTANCE	TELE_ASSIS	Indicates if the U.S. EPA provided any form of guidance to an outside agency of discharger over the phone. (1992-present)	TR
THREAT_CODES	THREATS	A code which indicates if the release has caused, or has the potential to cause, threats of harm to public health, property, or the environment. A single report may have up to five codes stored in ERNS. (1992-present) AC = Air Contamination DS = Direct Contact: Skin DG = Direct Contact: Ingestion DH = Direct Contact: Inhalation DU = Direct Contact: Non-Specific DW = Drinking Water Contamination EC = Ecological Damage FE = Fire/Explosion Hazard GW = Groundwater Contamination SC = Soil Contamination SW = Surface Water Contamination WC = Wetlands Contamination OH = Other	TR
TIME_CG	TIME_CG	The local time that the NRC (Eastern Time) passed the report to the USCG, based on 24 hour military time. (1987-present)	TN
TIME_EPA	TIME_EPA	The local time that the NRC (Eastern Time) passed the report on to the U.S. EPA, based on 24 hour military time. (1987-present)	TN
TIME_OTHER	TIME_OTHER	The local time that the NRC (Eastern Time) passed the report on to other agencies, based on 24 hour military time. (1987-present)	TN

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
TIME_SPILL	TMSPI	The local time the incident occurred, based on 24 TNR hour military time. (1987-present)	
TOWNSHIP	TOWN	The geographic survey description used in some TN states, expressed in geographic townships. (1990-present)	
TRANS_ACCIDENT	T R A N S	Indicates if the release was caused by a transportation-related accident. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	TNR
TRANSPORT_MODE	MODE	A code indicating the type of transportation involved with the release. A single report may have up to two codes stored in ERNS. (1987-present) A = Air Transport Related F = Fixed Facility G = Rail/Highway Crossing H = Highway Related M = Marine - released from a marine vessel to inland waterway. (NRC) O = Offshore - spilled off the coast P = Pipeline Related R = Railroad S = Underground Storage Tank T = Above Ground Storage Tank U = Unknown (EPA Regions) V = Marine Vessel (EPA Regions) X = Unknown (NRC)	TNR
UNDOT	UNDOT	Code issued by the U.S. DOT to be displayed on vehicles transporting hazardous substances. These codes are used to identify substances in case of a spill. This field is located in the MATERIAL data set. (1987-present)	TR
UNITS	UNITS	The units of measure used in the "QUANTITY_SPILLED" field. This field is located in the MATERIAL data set. (1987-present) BBL = Barrels GAL = Gallons LBS = Pounds NON = None OTH = Other TON = Tons UNK= Unknown	TNR

<u>Field Name</u>	<u>Abbreviation</u>	<u>Definition</u>	<u>Data code</u>
UNITS_IN_WATER	UNITSW	The units of measure used in the “QUANTITY_IN_WATER” field. This field is located in the MATERIAL data set. (1987-present) BBL = Barrels GAL = Gallons LBS = Pounds NON = None OTH = Other TON = Tons UNK = Unknown	TNR
UNKNOWN	UNK	Indicates if the release was due to an unknown cause. This field is one of a group of seven logical cause fields in ERNS including DUMPING, EQUIP_FAILURE, NATURAL_ PHENOMENON, OPERATOR_ERROR, OTHER_CAUSE, TRANS_ACCIDENT, and UNKNOWN. (1987-present)	TNR
USCG	USCG	Indicates if the USCG was notified of the release. (1987-present)	TN
VEHICLE_ID	VID	The vehicle identification number of the vehicle involved in the incident, if the incident was transportation related. (1987-present)	TNR
WATERWAY_AFFECTED	WWY	The name of the waterway, or body of water, that was affected by the release. (1987-present).	TR

ARIP Datafield Dictionary

APPENDIX G - DATA DICTIONARY FOR ARIP91 DATABASE

Question No.	Data Field Name	Description	Type	Status
PART A	ERNNS	ERNS identification no.	C6	
	NRNRC	NRC identification no.	N6	
	REGION	EPA Region	C2	
	LOGNO	ARIP identification no.	C5	
1	FACNAME	Facility name	C30	
	DUNBRAD	Facility Dun & Bradstreet no.	C11	
	FACSTR	Facility address	C30	
		Facility city	C30	
	FACCITY	Facility county	C30	
	FACCO	Facility state	C2	
	FACSTATE	Facility zip code 5-digit)	C5	
	FACZIP	Facility phone	C14	
2	FACPHONE	Spill location the same as Facility address (Y/N)	C1	NEW
4	SPILLOC	Spill location address	C30	NEW
	SPILSTR	Spill location city	C30	NEW
	SPILCITY	Spill location county	C30	NEW
	SPILCO	Spill location State	C2	NEW
5	SPILSTATE	Spill location zip code (5-digit)	C5	NEW
6	SPILZIP	Spill location phone	C14	NEW
	SPILPHONE	Latitude	C5	
	LAT	Longitude	C6	
	LONG	ERNS reporting date	D8	NEW
	ERNSDAT	ERNS repotting time	C5	NEW
	ERNSTIME	Were Federal authorities notified? (Y/N)	C1	
	FEDNOTIF	Federal authority identification codes	C3	
	FEDCODE	Federal reporting date no. 1	D8	
	FEDDAT1	Federal reporting time no. 1	C5	
	FEDTIM1	Federal reporting date no. 2	D8	NEW
	FEDDAT2	Federal reporting time no. 2	C5	NEW
	FEDTIM2	Federal reporting date no. 3	D8	NEW
	FEDDAT3	Federal reporting time no. 3	C5	NEW
	FEDTIM3	Federal authority contact name no. 1	C20	NEW
	FEDNAME1	Federal authority contact name no. 2	C20	NEW
	FEDNAME2	Federal authority contact name no. 3	C20	NEW
	FEDNAME3	Were State authorities notified? (Y/N)	C1	
7	STANOTIF	State authority identification codes	C1	
	STACODE	State authority name	C30	
	STAAGENCY	State reporting date	D8	
	STADAT	State reporting time	C5	
	STATIM	State authority contact name	C30	
	STANAME	Were local authorities notified? (Y/N)	C1	
	LOCNOTIF	Local authority name	C30	
	LOCAGENCY	Local reporting date	D8	
	LOCDAT	Local reporting time	C5	
	LOCTIM	Local authority contact name	C30	
	LOCNAME	Primary responding agency	C30	NEW
	PRIMRESP	Secondary responding agency	C30	NEW
	SECRESP			

APPENDIX G • DATA DICTIONARY FOR ARIP91 DATABASE (CONT.)

Question No.	Data Field Name	Description	Type	Status
PART B				
1	NNAME	Owner name	C30	NEW
2	RESNAME	Responding official's name	C30	
	RESTITLE	Responding official's title	C30	
	RESAGENCY	Responding official's agency name	C30	
	RESSTR	Responding official's street address	C30	
	RESCITY	Responding official's city	C30	
	RESSTATE	Responding official's state	C2	
	RESZIP	Responding official's zip code (5-digit)	C5	
	RESPHONE	Responding official's phone	C14	
	SIGNATURE	Signature on ARIP form (Y/N)	C1	
	QUESCOM	Signature/form date	D8	NEW
3	SIC1	Facility SIC code	C4	
	SIC2	Facility SIC code	C4	
	SIC3	Facility SIC code	C4	
	PRODUCT	Primary product	C50	
4	NUMEMPL	Number of employees	N6	
5	RELSTDAT	Date release began	D8	
	RELSTTIM	Time release began	C5	
	RELENDAT	Date release ended	D8	
	RELENTIM	Time release ended	C5	
6	HAZMN1	Release chemical name	C30	NEW
	CASN1	Release chemical CAS no.	N11	
	HAZC1	Release chemical concentration	C10	
	HAZS1	Release chemical physical state	C10	
	HAZMQA1	Amount released to air (lb)	N11.2	
	HAZMQS1	Amount released to surface water (lb)	N11.2	
	HAZMQL1	Amount released to land (lb)	N11.2	
	HAZMQT1	Amount released to facility treatment (lb)	N11.2	
	HAZMQ1TOT	Total amount released	N11.2	
	SECICHEM	Was a second chemical released?	C1	
	HAZMN2	Second release chemical name	C30	NEW
	CASN2	Second release chemical CAS no.	N11	
	HAZC2	Second release chemical concentration	C10	
	HAZS2	Second release chemical physical state	C10	
	HAZMQA2	Amount released to air (lb)	N11.2	
	HAZMQS2	Amount released to surface water (lb)	N11.2	
	HAZMQL2	Amount released to land (lb)	N11.2	
	HAZMQT2	Amount released to facility treatment (lb)	N11.2	
	HAZMQ2TOT	Total amount released	N11.2	
7	STATREL	When the release occurred	C7	TRANS
8	STATCUR	Status of process line at time of spill	C5	TRANS
9	RELLOC	Location of the lost containment	C1	TRANS
10	RELDISC	How release was discovered	C9	TRANS
11	RELCAUSE	Cause of release	C1	TRANS
12	ADDCAUSE	Secondary cause of release	C9	TRANS
14	ENDEFF	End effects of release	C5	
15	PUBNOTIF	Was general public notified? (Y/N)	C1	
16	COMMTEC	Technologies used	C12	

APPENDIX G • DATA DICTIONARY FOR ARIP91 DATABASE (CONT.)

Question No.	Data Field Name	Description	Type	Status
17	INJFACNUM	No. of facility employees injured	N6	NEW
	HOSFACNUM	No. of facility employees hospitalized	N6	
	DTHFACNUM	No. of facility employee deaths	N6	
	INJCONNUM	No. of contractors injured	N6	
	HOSCONNUM	No. of contractors hospitalized	N6	
	DTHCONNUM	No. of contractor deaths	N6	
	INJPUBNUM	No. of general public injured	N6	
18	HOSPUBNUM	No. of general public hospitalized	N6	NEW
	DTHPUBNUM	No. of general public deaths	N6	
	INJRESNUM	No. of responders injured	N6	
	HOSRESNUM	No. of responders hospitalized	N6	
	DTHRESNUM	No. of responder deaths	N6	
	CONTEVAC	No. of contractors evacuated	N6	
	CONTSHEL	No. of contractors sheltered-in-place	N6	
19	FACEVAC	No. of employees evacuated	N6	NEW
	FACSHL	No. of employees sheltered-in-place	N6	
	NUMEVAC	No. of general public evacuated	N6	
	NUMSHL	No. of general public sheltered-in-place	N6	
	IMMRESP	Immediate response activities	C11	
	ENVCODE	Environmental effects	C7	
	COSTFAC	Facility cost	N8.2	
20	COSTPUB	General public cost	N8.2	NEW
	COSTTOT	Total cost	N9.2	
	HAZASS1	Frequency of Cause-Consequence	N8.3	
	HAZASS1DT	Date last conducted	D8	
	HAZASS2	Frequency of Dow and Mond Hazard	N8.3	
	HAZASS2DT	Date last conducted	D8	
	HAZASS3	Frequency of Event Tree analyses	N8.3	
21a	HAZASS3DT	Date last conducted	D8	NEW
	HAZASS4	Frequency of Failure/Effects analyses	N8.3	
	HAZASS4DT	Date last conducted	D8	
	HAZASS5	Frequency of Fault Tree analyses	N8.3	
	HAZASS5DT	Date last conducted	D8	
	HAZASS6	Frequency of HAZOP Studies	N8.3	
	HAZASS6DT	Date last conducted	D8	
21b	HAZASS7	Frequency of Human Error analyses	N8.3	NEW
	HAZASS7DT	Date last conducted	D8	
	HAZASS8	Frequency of Probabilistic Risk	N8.3	
	HAZASS8DT	Date last conducted	D8	
	HAZASS9	Frequency of "What If" analyses	N8.3	
	HAZASS9DT	Date last conducted	D8	
	HAZASS10	No evaluation	N8.3	
22a	HAZASS11	Other evaluation	N8.3	NEW
	HAZASS11DT	Date last conducted	D8	
	OPINION	Effectiveness of hazard evaluation	C1	
	PREMANPRAC	Procedures/practices used before spill	C13	
	PREVFUT	Procedures/practices used after spill	C13	
	SYSPROC	Systems and controls used before spill	C13	
	ENG SYS	Systems and controls used after spill	C13	
22b				TRANS
23a				
23b				

Note: NEW = new field; TRANS = translated field; C = character; N = numeric; D = date; Type number = length.